AUGUST'60

MODERN TEXTILES

MAGAZINE

Specializing in Man-Made Fibers and Blends since 1925

FIBERS

FABRICS

FINISHES



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yarn producer
moving up
fast —
Story page 21

THIS MONTH

Stiffness tests for thread, twine
Brand-new yarn dyeing plant
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Southern Textile Exposition Greenville, S. C. October 3-7, 1960

Booth 244



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MODERN TEXTILES MAGAZINE

Modern Textiles Magazine Established 1925

Published Monthly by Rayon Publishing Corporation 303 Fifth Ave., New York 16, N. Y. MUrray Hill 4-0455

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by R. B. Williams

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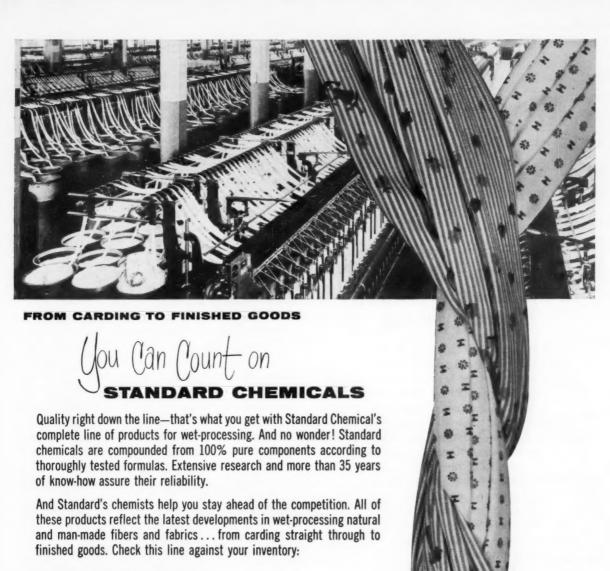
The Principal Trade Groups

- American Association of Textile Chemists and Colorists......Lowell Techn. Inst., Lowell, Mass.

- American Cotton Manufacturers Institute, Inc.
 Man-Made Fibers and Silk
 Division 10 East 40th St., New York

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Standapol and Stantex products for carding Stantex Penetrator 40 for desizing and sulphuric acid bathing Turpenol XXC for boiling Pyrotex detergent for cleaning Mercetex 756 for mercerizing Penetrator 111 and Sanforol 50D for dyebaths . . . vat, sulphur, direct Retardine and Retardine D for dispersing, retarding and leveling light and dark shades on difficult fabrics Pyrotex, Stantex NR-2 and Standapon for cleaning dyed goods

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To Fight Foreign Clothing

The Amalgamated Clothing Workers of America, at its recent meeting in Miami Beach, Fla., voted unanimously to use strikes, boycotts and other economic weapons to reduce import competition from Japan and other low-wage foreign countries. The program is intended to protect domestic jobs and pay standards by curbing the rising tide of U.S. clothing imports. The union decided on such action even though Secretary of Labor James P. Mitchell had given assurance that the union's pressure had already prompted Washington officials to increase the "seriousness" of their efforts to limit the influx of Japanese garments.

Oppose Tariff Cuts

The National Association of Wool Manufacturers has urged members of a Senate subcommittee to join in the association's request that "wool textiles and other textiles be removed from the U.S. bargaining list" for possible tariff reductions. The NAWM proposal referred to the list of products on which the U.S. may consider tariff cuts in the General Agreement on Tariffs & Trade negotiations in 1961.

Textile Outlook Assessed

The economic, technological, financial and marketing outlook for the textile industry is the subject of "A Look at the 1960's." The 40-page booklet is being distributed by Werner Textile Consultants, management consulting organization specializing in the textile industry. The brochure contains five papers delivered by nationally known authorities in their respective fields at a seminar for textile executives presented by the Werner organization at the American Textile Machinery Exhibition in Atlantic City recently. Free copies are available by writing the editors.







SAGNER SETS NEW STANDARDS IN SUITS









The Northcool suit was tailored by Sagner, of course.

The Vycott fabric (65% polyester – 35% combed cotton) was woven by Spinco Fabrics, Inc., and certified by U. S. Testing Co.

The Vycron polyester fiber was spun by Beaunit. The Vitel polyester resin was produced by Goodyear.

And so a new standard in wash-and-wear suits is set. For these fine names have combined their skills to produce a garment that's unmatched in its smart color, luxurious texture and all-around performance.

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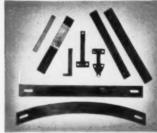
Northcool, Vycott-T. M.'s Sagner, Inc., Frederick, Md. Vycron-T. M. Beaunit Mills, Inc., Fibers Division, New York, N. Y. Vitel-T. M. The Goodyear Tire & Rubber Company, Akron, Obio

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IRC Moves Sales Service

Industrial Rayon Corp. has transferred its Sales Service Department to the plant offices at 9801 Walford Ave., Cleveland, Ohio, from its former location at 500 Fifth Ave., New York City. The new location, according to Clarence R. Barton, Sales Service Manager, will afford closer cooperation between the various plants, research and sales, and provide a faster service to Industrial's customers.

Curtis & Marble Buys Windle

Curtis & Marble Machine Co. has purchased J. E. Windle Machine Works, North Grafton, Mass. Windle has manufactured cloth finishing, double winding and measuring machinery since 1883. Windle winding machinery is in operation in many mills, particularly in the woolen industry throughout the United States.

New Name

Indian Head Mills, Inc., has announced that the recently-acquired USF-Aspinook Finishing Division of Gera Corp. has been renamed the USF-Arnold Finishing Division, as of June 1. The business was acquired from List Industries Corp. by Indian Head Mills in March.



UNIVERSAL TENSION



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SYNTHETIC YARN
WITHOUT WEAR
OR DAMAGE

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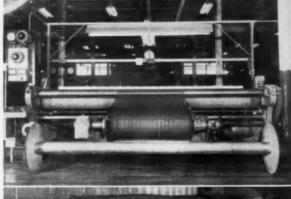


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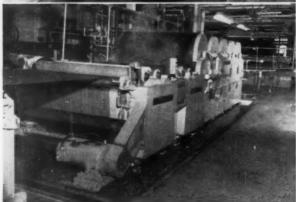
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Works and Laboratories, Jersey City, N. J. Hart Products Campany of Canada, Ltd., Guelph, Ontario









COCKER GH SLASHER VERSATILE EFFICIENT

Shown here are several views of part of a Cocker 9 cylinder GH Slasher installation at Swift Manufacturing Company, Columbus, Ga.—one of America's most versatile mills. These slashers operate on Acetate, Rayon, Nylon, Cotton and blends—stripes, solid colors, as well as greige goods.

The second picture demonstrates the extreme flexibility of the Cocker GH Slasher—accommodating beams from 36 inches to the 128 inch beam shown in front of the machine—with no projecting spindles. Note also, the convenient control panel.

Shown clearly in the third picture is the revolutionary Cocker Torque Tube Drive* which eliminates troublesome belts, chains, sprockets, etc. This greatly reduces maintenance and simplifies changing beam widths.

The lower picture shows the cylinder section and two Model DA Size Boxes.

Due to especially heavy warp construction, maximum speeds on this particular installation are approximately 100 yards per minute. In other mills, Cocker GH Slashers are operating at speeds up to 184 yards per minute on lighter constructions.

We believe that the new Cocker Model GH Slasher is the most efficient and versatile slasher in the World. Let us give you full information.

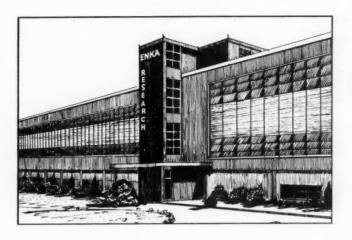
*Pat. Pending

Visit Cocker's Display, Booths 836 & 837, Southern Textile Exposition

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dation garments. Blanc de Blancs nylon deniers currently being offered by Enka are: 40/8, 50/13, 70/32, 100/32, 140/64 and 200/32.

HYDROWARP PIRN for ENKA NYLON

Another step by American Enka to help maintain competitive nylon sales: a new four-pound 13 in. pirn. This new hydrowarp pirn increases net yarn weight per pirn, improves unwinding tensions of the yarn, and reduces operating costs in your mills.

NEW BRIGHT LUSTER STAPLE for ENKA RAYON STAPLE

This new American Enka development has been designed particularly for use in chenille bedspreads, both tufted and woven. In addition to its outstanding processing qualities, this fiber also facilitates the production of chenille bedspreads, exhibiting excellent resilience and bloom.

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The Lindly Automatic Yarn Inspector is a high-speed, ultra-sensitive photo-electric instrument for detecting defects in synthetic yarn warps. It can be set up to count defects, or to stop the warper for defect removal, or to do both — automatically.

The Electrotense with Electronic Control provides uniform tension on every end in your knitting and weaving machines by a simple turn of one dial on the electronic control panel. The Electrotense itself consists of an electromagnetic coil located beneath two conventional discs rotating on a ceramic post. When the coil is energized, the upper disc is attracted downward, creating tension on the yarn. Pulsating current prevents backup of twist and the collection of lint in the tensions.

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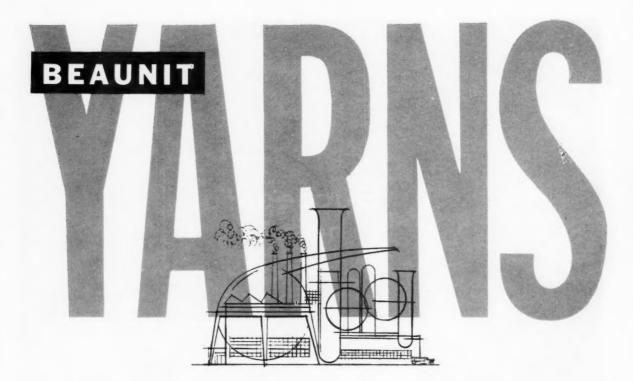
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The BARBER-COLMAN line of warptying machines has now been extended to cover practically every conceivable application. As noted above, the Type "M" machines are now available in ten sizes. These machines tie the full width of the warp in one operation, work directly in back of the loom, and are made in several types to tie-in cotton, spun yarns, filaments, wool, worsteds, or synthetic yarns from a flat sheet or from an end-and-end lease. When using a Type

"M" Warp-Tying Machine, none of the weaving elements need be removed nor any of the loom settings disturbed. The picture at the right shows the special cart used for protecting the Knotter Unit when not in use and for carrying it from one frame to another when two or more are employed. This carrier also contains the variable speed-controller for the Knotter Unit. These machines are probably the most versatile available for most mill conditions.





IMPROVED SERIES "L" IDEAL FOR CERTAIN CONDITIONS

BARBER-COLMAN Model "L" machines are familiar to two generations or more of mill people, be-cause they have been on the scene in one form or another for 45 years. The latest designs, one of which is shown here, have many up-to-date improvements which distinguish not only their appearance but also their operation and efficiency. These compact, versatile, and easily-moved machines have many important ap-

plications in both large and small mills. Barber-Colman representatives are thoroughly versed in the usefulness and applicability of both Model "L" and Model "M" ma-Model "L" chines, and can be consulted with confidence as to which might suit a given situation best. Also, it is important to know that all users of Barber-Colman machines are served promptly and skilfully by an alert service group of wide experience.

AUTOMATIC SPOOLERS . SUPER-SPEED WARPERS . WARP TYING MACHINES . WARP DRAWING MACHINES

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in nylon tire yarn and a new standard of strength for heavy-duty marine ropes. Golden Caprolan is performing superbly in conveyor belts, tarpaulin fabrics, high-strength industrial webbings, and other applications where heavy-duty performance is essential. If you have a tough job, we have the tough yarn for it.

Ourtechnical service, end-use development and fiber application staffs are ready to help.



MODERN TEXTILES

Magazine

Publisher's Viewpoint

Some Thoughts on Our Thirty-Fifth Anniversary

With this issue Modern Textiles Magazine rounds out its thirty-fifth year of service as the medium of the manmade fibers and affiliated industries. The record of accomplishment of those who have played a part in the expanding production and use of manmade fibers since 1910, when the first successful pound of viscose filament yarn was produced in this country, to the present day has been faithfully set forth in the pages of our publication.

The 1959 consumption of manmade fibers in the United States reached almost two billion (1,996,700,000) pounds, and there is present plant capacity, plus new plants now being built or in the planning stage, to care for further expansion in demand. The monthly record provided by Modern Textiles Magazine constitutes the important summation of events that affect the entire textile industry.

Grateful for Help

During the span of more than a third of a century, it has been a rare privilege to those on our staff to have worked closely with the yarn and fiber manufacturers and their affiliates. The concentration on technical developments and the general presentation of the industry's news in our pages have been effective in helping make Modern Textiles Magazine the recognized authority on matters relating to present day fibers, fabrics and finishes.

But even more important than the past is the future, and the immediate and long-range de-

velopments that it is bound to bring forth. The basis of a still greater chemical yarn and processing industry has been laid and upon it a widening activity is being created.

Blending Old and New

To the conventional types of fibers and fabrics that served mankind through ages past have come the new creations, conceived by man and controlled in structure and usage in textile products. It has become apparent that modern practice takes into consideration the relative value of cotton, wool and other classic natural fibers in conjunction with the new types that are available in any required quantity. This has taken out of the equation the hazard of crop failure and inherent defect, and made it possible for spinners, weavers and knitters to operate with a raw material that is fairly free from sudden price fluctuations.

To all of our friends in the textile industry we extend sincere thanks for their generous cooperation. In turn we pledge ardent interest in their problems and unflagging effort to report on all matters that are of interest and concern.

We face a challenge to make the years ahead come up to and transcend those that have passed.

We shall strive to the utmost to continue to merit and hold the confidence of the industry, and we pledge that the record to come will be faithfully and impartially written.

a.145Mecallough

TEXTILE NEWS



World Wide

BRITISH TEXTILE MACHINERY firms are welcoming European export opportunities. Courtaulds and Luna, Ltd., its wholly owned subsidiary, will supply nearly \$6 million in plant and equipment to build an acrylic fiber plant in Yugoslavia. Acetilen and Vardar are the Yugoslav firms. British Northrop will sell Russia 600 automatic looms, worth some \$2.8 million, by the end of 1961. And Vickers, Ltd., and Hans J. Zimmer of Frankfurton-Main will set up an engineering firm in the German city to specialize in man-made fibers.

DUTCH TEXTILE AND CLOTHING manufacturers, representing more than half the country's textile capacity, have established a central sales office and are building new quarters in Amsterdam. The group of over 100 firms promises to continue as competitors while streamlining marketing.

A FIRE-RESISTANT RAYON fabric is reported to have been developed by two Japanese firms, Dai Nippon Cotton Spinning & Weaving, of Osaka, and Isezi Chemical Industries, of Tokyo. The fabric, called "Bonseal," is impregnated with a phosphate compound and can be used for wall coverings, curtains, draperies, lace and upholstery.

JAPANESE FIRM PLANS TO CONVERT its 33,000-spindle plant to spin Vinylon polyvinyl alcohol yarn. The firm, Kurashiki Spinning Co., is also set to convert 23,000 spindles to synthetic yarn spinning and substantially raise capacity above the present level of 200,000 pounds a month.

ACRYLIC FIBER EXPANSION is likely to pace the synthetic textile industry over the next few years, according to Sir John Hanbury-Williams. The Courtaulds' chairman also told the annual meeting that 70% of the firm's net assets and 60% of its profits still stem from textiles. The company has been diversifying widely.

ISRAEL'S NYLON 6 PLANT has gotten underway and should be producing at a 1,000-ton yearly rate soon. Fifteen denier monofilament and all deniers from 30 to 100 in multifilament will be turned out at the Rogosin Industries nylon factory. Later 2.2 million pounds annually of nylon tire cord will be made.

THE PHILIPPINES WILL MAKE all of its

normal textile requirements by 1961, the Textile Mills Association predicts. During the second half of 1960, 131,000 spindles and 5,100 looms are being installed to bring the totals to 400,000 and 10,400, respectively. In 1958, Philippine textile output, at 260 million yards, covered 70% of needs. The Association of Clothing Manufacturers, meanwhile, is urging the Philippine government to impose measures to curb dumping of inferior goods to save infant industries.

ITALIAN FIRM BUYS Red China cotton gray cloth. Benistex, Ltd., of Milan is reported to have purchased \$1.2 million in gray goods which are to be finished in Italy. Delivery is to occur within 12 months.

SWISS CIBA FIRM IN UK has opened a \$1.4 million research laboratory at Manchester. Shrink-resistance, flame-proofing and the development of new finishes will be stressed. The new lab, similar to Ciba's Fair Lawn, N. J., unit, will exchange research information with the U. S. groups.

THREE EUROPEAN FIRMS form new textile research and development company in Zurich. The firms are Stoffel & Co., St. Gall, Switzerland; Cotonificio Legler, Ponte San Pietro, Italy, and F. M. Haemmerle Textile Works, Dornbirn, Austria. The director will be Dr. Werner Kunz, president of the Swiss Association of Textile Chemists and Colorists. Tretex, Inc., the new firm, will act as licensee and supply technical services. Initially, the firm will concentrate on cotton and cotton mixes. Dr. Kunz will visit many countries, including the U. S.

FRANCE, SWEDEN DROP BANS on imports, under rules of the General Agreement on Tariffs and Trade, which apply to textiles, clothing and other products, it was announced in Geneva. GATT also said that Italy, the U. K., Malaya and Ghana have cut down using "balance of payment" troubles as a reason for retaining import bans.

BRITISH RAYON TRADE bothered by imports from the United States. The Rayon Weaving Association, of Manchester, is especially concerned about filament fabric imports which, it says, could reach 10.5 million square yards in 1960. This would be nearly twice U. K. imports in 1959.

Not all yarn producers are big corporations. In ten years, a handful of young men, starting with little, have built up a successful business as extruders of saran and olefin yarns

Dawbarn

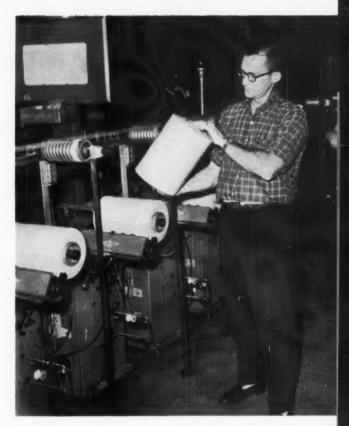
Brothers:

on the way up

By Jerome Campbell, Editor, Modern Textiles Magazine

N THE SUMMER OF 1950, a lean, intense young man moved around the South, buttonholing businessmen he knew or could get introductions to. In Baltimore, Charlotte, Richmond, and Charlottesville, he talked long and earnestly seeking to persuade investors to put up money for a business he wanted to establish. His name was Henry Dunlop Dawbarn, and with his brother, Waring Lennox Dawbarn, he had less than \$20,000 as a kernel of capital to set up a plant to extrude saran yarn. The catch was that he needed \$200, 000 more to get started even in the most modest fashion.

Before the summer was over, he had raised the money. It was done in this way: 15 year bonds were sold to a group of venturesome backers in lots of \$5,000 each. Each purchaser of a block of \$5,000 in bonds was permitted to buy 400 shares of common stock at \$1 a share.



SHARP EYE ON THE PRODUCT—A shirtsleeves executive, head man H. Dunlop Dawbarn hefts a big package of polyolefin yarn in Dawbarn Brothers' new plant in Waynesboro, Va.

For anyone farsighted or reckless enough to listen ten years ago to Buz Dawbarn, as everybody calls him, an investment in the new firm of Dawbarn Brothers, Inc., turned out to be a good one. The bonds were long ago redeemed so that each purchaser of \$5,000 worth got his money back. The stock was split in 1955 in the technical form of a stock dividend, nine new shares going to each original share. With the stock traded today at \$16 a share, each of the original buyers of one share at \$1 now has ten shares worth \$16 each. Viewed another way, each original purchaser of \$400 in stock now has shares worth \$64,000.

Dawbarn Brothers came into existence because Buz Dawbarn and his brother Lennox decided they wanted to be in business for themselves. Their choice of saran extrusion as a field for their endeavors came about in this way. In 1950 Buz Dawbarn was a salesman for National Plastic Products Co., a job he had taken three years earlier after a brief and unprofitable venture as a maker of aluminum furniture. Three years selling saran yarns largely to manufacturers of auto seat covers had given Dawbarn some knowledge of the business and a wide acquaintance among mills that wove saran fabrics. His brother Lennox shared his desire to go into business, and they decided to join forces. Lennox, a graduate engineer, had been working as a consultant.

(Continued on Page 38)

ACETATE FILAMENT SPINNING

New machine provides fresh approach

By Rodolfo Beeck

N 1955, my company decided to expand its acetate spinning plant. An evaluation was made of the few spinning machines offered to us in the market, as to the investment required per ton-year capacity, and the technical features of the designs of these machines. The conclusion reached was not favorable to the purchase of any of the models available at that time. Therefore our engineering department was commissioned to develop a design of an acetate spinning unit. This unit has been in operation since March 1959.

The design was developed under the direction of the author with the valuable assistance of the technical group of the Neumag Co. (1), particularly in the application of the reluctance type electric motor. As is known, in this field several of the large manufacturing firms of the international market have tackled the design of spinning machines independently. But seemingly because of the fact that these machines were meant for internal use only, very little has been released about their general features.

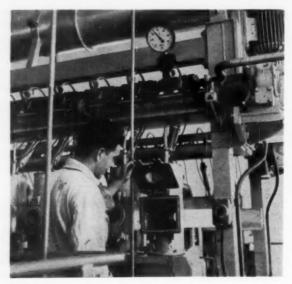
The comments on the design trends observed, are the result of the inspection by the author of seven different machine-designs in five countries during the period 1953 to 1957. The purpose of these notes is to outline the general trends and some of the problems encountered in a field which was first opened to general discussion by the reports of the Technical Industrial Intelligence Committee published in 1946, but which has received little publicity since.

As is generally known, the spinning of acetate filament is a typical dry spinning process; the main features of the plant being described on the enclosed flow sheet. (Figure 1).

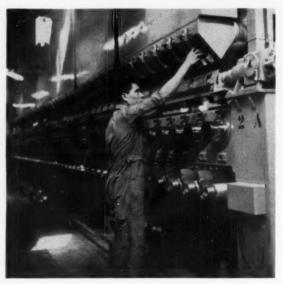
A cellulose acetate of "yarn-grade" (54 to 56% combined acetic acid) is dissolved in acetone, producing a highly viscous solution (500 to 800 Poise at 40°C) containing 25 to 28% acetate. This solution, called "dope", is filtered successively three or four times through plate and frame filter presses with intermediate tanks, which serve the additional purpose of allowing the separation of the air bubbles trapped during the dissolving. The prepared dope is then pumped to the spinning room.

The spinning machine comprises between 80 to 160 "cells" (vertical tubes 15 to 18 feet long of circular cross-section and 5 to 6 inch diameter), in which the dope fed through the top, falls into a slow co-current or counter-current of hot air. During its descent the dope loses acetone passing from a viscous fluid to a flexible solid acetate filament with 10 to 12% resi-

Mr. Beeck is the technical director of Filamentos Sinteticos, S.A., Lima, Peru.



UPPER LEVEL of acetate spinning machine, showing spinning pumps, candle filter and access door to spinneret opened



LOWER LEVEL of acetate spinning machine, showing cell outlet, oiling roll, godet wheel and take-up



Whether they be for outerwear, underwear, bedspreads, bath mats, towels, carpets, upholstery, draperies or what not (knitted or woven), Franklin Dyed Yarns are a standard part of many fashion fabrics. And with good reason, for:—

- With the largest package dyeing capacity in the world and 4 plants, Franklin is a highly dependable source of supply.
- The Franklin Compressible Spring assures uniform density of packages and hence uniform shades.
- Franklin's unequalled laboratory facilities and half a century of experience assure strict quality control and the know-how to cope with difficult dyeing problems.

Get in touch with our nearest plant or office and let us quote on your yarn dyeing requirements.



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Dyers of natural and synthetic yarns on Franklin compressible spring exclusively.

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FEATURES of the C-75 Loom:

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- 4-color rotary magazine for 36 bobbins
- Flight-type optical electronic feeler
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This new C-7S Loom offers mills weaving fine filament fabrics the opportunity to maintain a new degree of consistent high quality . . . at consistent low costs.

Besides the features at the left there are many other engineering advances that result in the remarkable performance characteristics of this new loom.

We would like to arrange for you a more complete demonstration of the C-7S Loom than was possible at the American Textile Machinery Exhibition. In the meantime, let us send you the C-7S descriptive literature.

MANUFACTURERS OF THE WORLD'S LONGEST LINE OF AUTOMATIC BOX LOOMS



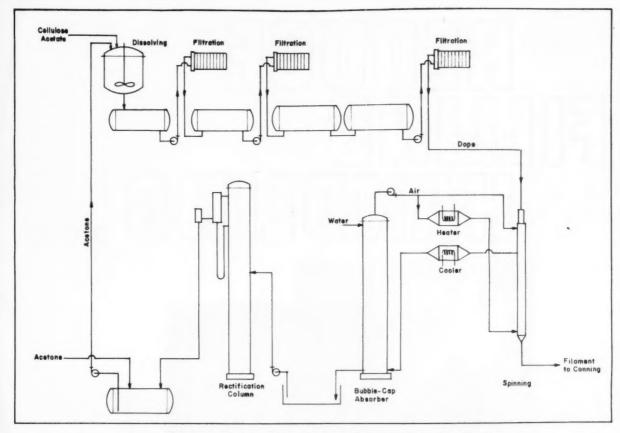


Figure 1—Flow diagram of acetate filament spinning at Filamentos Sinteticos S.A., Lima, Peru

(Continued from Page 22)

dual acetone, in which form it is drawn through the bottom of the cell and either collected in a package of continuous filament, or bundled together with others, drawn further to a crimper and cutter to,produce staple.

The hot air leaving the cell carries the acetone evaporated from the dope, and is conveyed to the acetone recovery unit—active carbon adsorption, or water absorption in bubble-cap towers followed by rectification of the acetone-water mixture in a bubble-cap rectification column. The recovered acetone returns to the dope preparation.

From a design point of view, the process described involves a number of well defined unit operations for which standard equipment is available i.e., dissolving, filtering, absorption or absorption and rectification.

Comparing the design features of the dope preparation and solvent recovery of older plants with the more recent ones, it appears, broadly stated, that the major advance lies in the extensive use of stainless steel type 304 for vessels, filter-presses, piping and solvent recovery units, replacing galvanized or tinned steel and copper. Batch size of the dissolver has increased, and the variangle turbine blade type dissolver has replaced the primitive units, reducing the power requirement.

A detailed description of the several other advances of technical and economical significance is beyond the scope of this article but it can be safely stated that they form part of the general development of unit operation equipment which has taken place outside the acetate spinning industry, and which has enjoyed wide publicity. The only specialized operation involved in the process described,

is the actual spinning, and the development of this equipment has been a direct responsibility of the specialized field.

The Mechanisms of the Spinning Machine

As already mentioned, the conversion from the dope into yarn is carried out in a spinning machine which comprises a number of spinning positions (80 to 100) currently arranged in two parallel and symetrical groups or "sides".

From a mechanical point of view, each spinning position, also called spinning unit, has four well defined elements: (Figure 2)

The dope metering. Now universally accomplished by a positive displacement spur gear type of pump of special design and very close-tolerance manufacturing: The spinning pump (2).

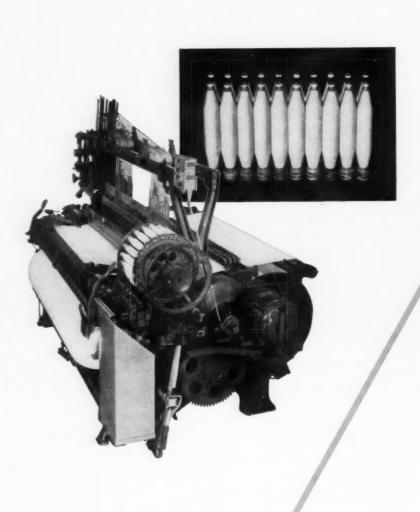
The oil application. Frequently accomplished by a rotating wheel known as an "oiling roll" of smooth but slightly porous surface, obtained for instance, by bonding together fine mesh marmor powder with an oil resistant thermosetting resin. (3) The anti-static oil, usually as an aqueous emulsion, circulated in a lengthwise running trough in which the wheel is partially immersed, adheres as a film to the cylindrical surface of the rotating oiling roll. This film is continuously swept by the down-coming thread at the point of tangential contact, thereby transferring the oil to the yarn.

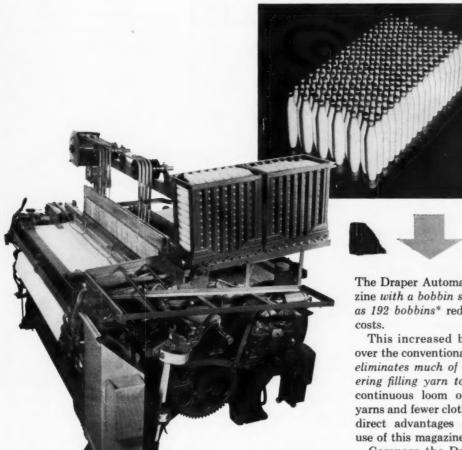
The drawing or Godet wheel. A cylindrical surface whose peripherical velocity determines the spinning speed. The yarn is wrapped once around it, and therefore literally "draws" the yarn out of the spinning cell and past the oiling roll.

These drawing wheels were generally designed

(Continued on Page 28)

REDUCE FILLING HANDLING...





The Draper Automatic Filling Magazine with a bobbin supply of as many as 192 bobbins* reduces weave room

This increased bobbin capacity, over the conventional Rotary Battery eliminates much of the cost of delivering filling yarn to the loom. More continuous loom operation, cleaner yarns and fewer cloth seconds are also direct advantages gained from the use of this magazine.

Compare the Draper Automatic Filling Magazine with the conventional battery and see for yourself the many benefits that can be obtained.

For additional information consult your Draper representative.

*11/4" diameter bobbins



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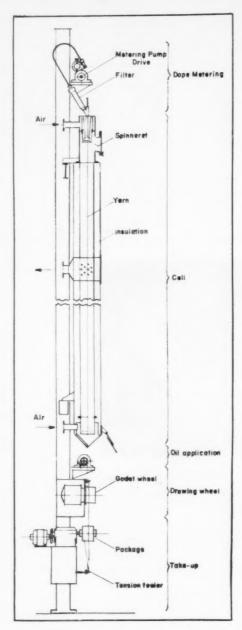


FIGURE 2—The mechanisms of the spinning machine

mounted on a common driving shaft extended throughout the entire length of one machine side.

Modern design practice however tends to replace the long and heavy shaft rotating at relatively high speed (955 RPM for an 8 inch diameter wheel, or 1270 RPM for a 6 inch diameter wheel when spinning at 600 meter per minute), by individually driven Godet wheels.

The individual drive of the Godet wheel imposes nevertheless some special features on the electric motor, which will be discussed later.

The take up mechanism. Is located below the drawing wheel and winds the yarn into a package, thus performing a typical textile operation.

Various approaches have been used at different times to perform the winding of this rather delicate fiber at constant speed of supply.

The simplest and seemingly also the first to be

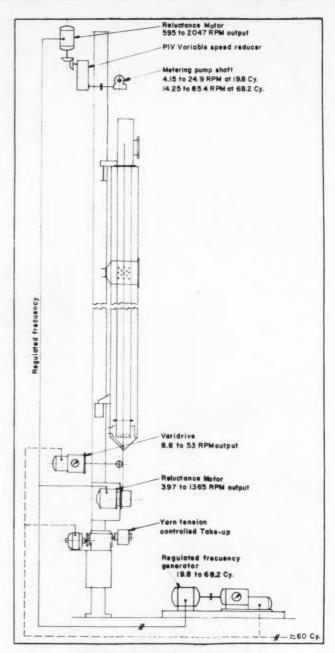


FIGURE 3—Electrical feed and drive speeds

used has been the friction-driven, parallel non-twisting take up. A cylindrical cardboard core is rotated by friction of its outer surface (initially cardboard but afterwards the outer yarn layer); the distribution of the yarn on the package length being accomplished by a traverse. (4)

The friction driven parallel winder, which has remained in the fully synthetic fibers field because of their much higher abrasion strength, was replaced quite widely in the acetate spinning machine by the cap, and particularly the ring-twisting take-up (5), the idea being to reduce the yarn friction to a minimum, and introduce a slight twist while collecting it into a package.

In both twisting take-ups, the horizontal package of the friction driven type was replaced with vertical spindles rotated by an independent drive. In both of these, the yarn touches only on surfaces which are (Continued on Page 36)

DYEING and FINISHING

Go young man!

If you handle a continuous web of textiles...



(audio)

You can . . . wash it



(audio)

... print it



(audio)

... emboss it



(audio)

... coat it



(audio)

... guide it



(audio)

... mercerize it



(audio)

... wet it



(audio)

... bleach it



(audio)

... dry it



(audio)

. . . cut it



... wind it



... stretch it



(audio)

... shrink it



(audio)

... dye it



(audio) All in

Butterworth Machines

BLEACHING PRINTING SPECIAL PROCESSING

Go BUTTERWORTH young man!

H. W. BUTTERWORTH & SONS COMPANY Division of Van Norman Industries, Inc. BETHAYRES, PA. . SINCE 1820

In the South: Industrial Heat Engineering Co., Greenville, S. C. In the North: United States Supply Co., E. Providence, R. I.



PLENTY OF ROOM TO WORK—The main floor of Corlin's new plant showing dyeing machines built by Gaston County Dyeing Machine Co.

Brand-new package dyeing plant

Landis, S. C. installation said to be last word in high speed, continuous flow yarn dyeing

Staff Prepared

Now IN OPERATION in Landis, South Carolina, is a new package yarn dyeing plant, said to be one of the most modern and complete built in the United States during the past several years. It was erected as an all-new from-the-ground-up dyeing facility at a cost of \$750,000 by Corlin Processing Co., a joint venture of Linn Mills and Corriher Mills.

The plant was designed to provide straight-line production, a continuous flow of yarn from spinning machines to the dyehouse and then on to the purchasers of the dyed yarn. At both Linn Mills and Corriher Mills, producers of carded and combed yarns for the sales yarn trade, yarn is wound upon tubes and loaded in self-contained pallets. The yarn is then trucked across town to Corlin's spanking new plant. When it has been dyed and dried, it is moved to a winding room within the dyehouse for backwinding, packing and shipping directly to customers.

The new Corlin plant was equipped to provide flexibility in its machinery arrangements. This built-in flexibility permits the production of dye lots ranging from 200 to 1,500 pounds of yarn in a single dye bath. By this means, correct shade and level dyeing are assured throughout any given batch.

On a mezzanine floor in the plant, a central chemical mixing room has been installed. In this room dyestuffs and chemicals are combined and fed directly, as needed, through overhead glass tubing, to the dyeing machines. Easy and immediate communication between dyehouse and mixing room is provided by a system of signal lights and intercom equipment.



PRACTICED EYE—Robert H. Hundley, plant manager, checks a sample of dyed yarn

A laboratory has been installed and equipped to provide effective means for matching shades and producing dye lots up to 15 pounds. This equipment enables Corlin to assist stylists and designers in development work. Management at Corlin considers this phase of its work an important part of its service to customers.

The heart of the new plant is its battery of high temperature dyeing machines which can handle temperatures up to 350°F. Drying equipment in the plant consists of the latest type static-pressure rapid dryers. Dryers of this kind assure fast delivery of

yarn orders once shades have been established and approved. The old problem of bottlenecks in production caused by delays in drying has been avoided at the new plant by installing the fastest drying machinery available, and by providing excess capacity beyond actual requirements.

Dyeing and drying machinery at the plant was produced and installed by Gaston County Dyeing Machine Co. of Stanley, N. C. Instruments for the machinery were manufactured by the Foxboro Co. Electrical equipment was produced by Allis-Chalmers Manufacturing Co. Interior of the new building is of

concrete block while the exterior is made of red



KEEPING TAB ON PRODUCTION—Working facilities for administrative and laboratory staffs are as modern as the dyeing machinery

jumbo brick. To permit future expansion, the rear wall is constructed of insulated aluminum panels.

Linn Mills, one of the two co-owners of Corlin Processing Co., was established in 1900. Currently it operates 40,000 spindles to produce 175,000 pounds of yarn a week. Corriber Mills Co., the other co-owner of Corlin, was set up in 1907, and also currently has 40,000 spindles with a weekly production of 115,000 pounds of yarn.

New Arkansas Products

Arkansas Co., Newark, N. J., has added two new products to its group of dyeing auxiliaries. The new products are Algepon 230 and Algepon 281, said to represent substantial advances in dyeing synthetics.

Algepon #230 was developed specifically as an efficient retarding agent for dyeing 100% Orlon, using cationic dyes. It is said to produce exceptionally uniform and level dyeings, due to its continuous retarding effect throughout the dyeing cycle. It is particularly applicable for dyeing light and pastel shades. For optimum results, Arkansas Co. recommends a prescouring operation with a nonionic detergent, such as Dergon O M, followed by rinsing. Algepon #230 is a liquid cationic product, readily soluble in water, acid in reaction, with a pH from 5.0 to 5.5.

The second new product, Algepon #281, is a dye bath assistant, said to be effective in eliminating Barré marks when dyeing nylon with selected acid dyes. Used in accordance with the procedure recommended by its manufacturers, it does not affect adversely the light fastness of the fabric. Algepon #281 is easy to use and requires only 4% on the weight of the goods for best results. It is a liquid easily dispersed in water, and completely stable during the dyeing operation. A modified cationic compound, it has a slight acid reaction, with a pH range of 5.0 to 5.5. Samples and instructions for dyeing procedures using Algepon 230 and Algepon 281 are available by writing the editors.

Kenyon in Big Expansion

Kenyon Piece Dyeworks has installed over \$250,-000 in new equipment at its plant in Kenyon, R. I., as part of its program to establish a reputation in the spun yarn fabric field equal to its present status in filament synthetic fabric dyeing and finishing. Kenyon, since World War II, has doubled its physical size, more than doubled its customers, raised its use of electricity $2\frac{1}{2}$ times, and added 200 workers to make

its current employment 500. It now has more equipment per square foot than almost any other plant in the industry, according to Raymond Curtis, president.

The new equipment includes electronic controls, automatic recording of temperatures and tensions. Twenty persons are employed in the firm's laboratories to work on the problems of processing newer weaves and new synthetics. David Curtis, Kenyon vice president, said that within the next 10 years he expects all-cotton, all-wool and all-anything fabrics to virtually disappear in favor of blends with manmade fibers. Some of the firm's new machinery was purchased with a special view toward handling these blends and fibers.

Primarily a finisher of linings, Kenyon since 1945 has developed a varied finishing program for Arnel, nylons, Dacron sailcloth, canopy fabrics, outerwear and rainwear, synthetics for the corset and bra industry, as well as Milium and other linings.

Better Wool-Dynel Dyeing

New single-bath procedures for dyeing blended fabrics of wool and Dynel modacrylic, which reduce dyeing time by 50% and more, have been announced by the Textile Fibers Department of Union Carbide Chemicals Co. Developed by Carbide's Textile Service Laboratory in cooperation with Geigy Chemical Corp., the new methods, when combined with recommended finishing techniques, give resulting fabrics high wash-fastness, good hand and dimensional stability, Carbide reports. The procedures eliminate the neutralizing step on carbonized fabrics prior to dyeing, and solve a primary difficulty in dyeing combinations of hydrophilic with certain hydrophobic fibers in a single bath.

The new method relies on two chemicals for its dyeing procedure— Tinegal RWI, manufactured by Geigy, and Peregal TW, distributed by General Dyestuff Corp. Tinegal RWI is used to insure level dyeings and Peregal TW functions as an anti-precipitant. For further information write the editors.

How one mill weaves Acrilan upholstery cloth



COLOR ADDED—Acrilan yarns used by Holyoke in upholstery fabrics are package-dyed with selected basic dyes

Staff Prepared

HOLYOKE FABRICS, INC., Holyoke, Mass., is a specialized manufacturer of upholstery and drapery fabrics for the furniture and allied industries. During the past year, the company has added upholstery and drapery fabrics made with Chemstrand's Acrilan acrylic fiber. After less than 18 months of production, Holyoke's Acrilan fabrics are in the lines of 26 furniture manufacturers and 10 jobbers, according to Felix Brawer, president.

All Holyoke's Acrilan upholstery fabrics meet the standards of quality required by the Chemstrand Corp., producer of the acrylic fiber, for use of its "Exclusive Quality" label. To qualify, the label fabrics must contain a minimum of 50% Acrilan, and must meet construction standards set by Chemstrand.

Holyoke's Acrilan upholstery fabrics are woven in a variety of colors, color combinations, weaves, and textures. All are designed to have the following construction features:

(1) Plied yarns of 100% Acrilan are used in the filling. Holyoke spins these yarns on a modified worsted system, usually from 8 d.p.f. 6", bright luster Acrilan. This type staple not only gives the fabrics freshness and crispness, but also prevents them from pilling and fuzzing during wear.

(2) Carded cotton or spun rayon warps are generally used in the warp.

(3) Yarns for warp and filling are generally package-dyed.

(4) Except when yarns of Acrilan are employed in both warp and filling, extensive use is made of filling face type weaves such as ribs and satins. By using filling yarns of Acrilan in conjunction with filling face type weaves, the Acrilan fiber comprises the face of the fabric where its properties of soil and stain resistance, rich hand, and good wearability, can be used to maximum advantage.

After spinning, the yarns are twist set in an "H-W" conditioner. Twist setting stabilizes the yarns and facilitates subsequent coning by preventing the formation of kinks.

Following coning, the yarns are generally plied and wound upon dye packages preliminary to dyeing. Unless a natural shade is desired, Acrilan yarns for upholstery fabrics are almost always dyed under pressure in package dyeing machines. Selected basic dyes are used almost exclusively, not only because of their good color-fastness properties on Acrilan, but also because of their brightness of shade, good leveling properties, and ease of application. Management at Holyoke has found that package dyeing is best for the high grade upholstery fabrics which the company manufactures. The process gives a brightness and clarity of shade unsurpassed by any other method, and also enables Holyoke to work with minimum inventories of colored yarn.

To obtain dyed yarns of the highest quality, certain principles are carefully followed in the dyeing operation. For example, the dyestuffs are always well dissolved and are usually strained through a sieve or cheesecloth as they are introduced into the expansion tank. All dyes and chemicals are added to the dyebath while the liquor flow is from the outside to the inside. If there is a considerable quantity of dyestuff involved, this is added in portions rather than all at once. During the dyeing cycle, the liquor flow is

shifted from the outside to the inside approximately every five minutes. (Total complete cycle time is

approximately ten minutes.)

When dyeing is completed the dyed yarn packages are removed from the dyeing machine spindle and are packed vertically by hand in the hydro-extractor. To prevent any possibility of color migration, the yarn packages are dried as soon as possible after dyeing.

Holyoke has found that Acrilan dries quickly and that duration and temperature of the drying operation depends largely on the amount of moisture removed during hydro-extracting, the size of the packages, and the amount of yarn in the dryer. Yarns are dried in tray driers, generally from four to eight hours, in the temperature range 160°F to 180°F. If cotton or spun rayon warp yarns are used in the fabric in conjunction with Acrilan filling yarns these too are package dyed. Specially selected fast-to-light direct colors are used for this purpose.

Holyoke weaves upholstery fabrics made with

Acrilan in widths up to 59 inches using Crompton and Knowles W-3, 4 x 2, automatic looms. In many cases two and three beam warps are used, the extra beams carrying the binding and effect threads.

Most styles have cotton or spun rayon warps. 30/2 is a common yarn number for the cotton; 50/2 for the spun rayon. One novel style currently being woven consists of a leaf effect obtained by weaving a printed cotton warp with a filling of 100% Acrilan. Nevertheless, in most cases, yarn dyed filling faces create the over-all design effect with the warp yarns either hidden or almost completely hidden from view.

Usually, the upholstery fabrics made with Acrilan are loom finished: that is, simply removed from the loom, measured, and any defects removed while they are passed over the examination table. Because the fabrics are loom finished, every precaution is taken during weaving and prior operations to insure cleanliness. In cases where the upholstery fabrics are to be used over foam rubber or polyurethane, they are given a thin rubberized backing.

Celanese Makes Changes

Celanese Corp. of America has reorganized certain divisional operations, and has appointed John W. Brooks and Richard W. KixMiller executive vice presidents. Kenneth C. Loughlin, president, said the realignment and appointments were dictated by the recent expansion and diversification of Celanese business.



R. W. KixMiller

J. W. Brooks

The firm's operating divisions have been increased from three to four; to the existing Celanese Fibers Co. and Celanese Chemical Co. have been added the Celanese Plastic Products Co. and Celanese Polychem Co. The latter two new divisions supersede the former plastics division.

Brooks has been assigned directional responsibility over the Fibers and Plastic Products companies and KixMiller over the Chemical and Polychem companies. Brooks and KixMiller formerly were corporate vice presidents.

New presidents of the four divisions are: Peter H. Conze, Celanese Fibers; William P. Orr, Celanese

Polychem; David Taylor, Celanese Plastic Products, and James H. Worth, Celanese Chemical.

Along with these personnel changes, Celanese also made known the appointment of Louis F. Laun as vice president and director of marketing of Celanese Fibers Co., a post formerly held by Conze; and the appointment of Laurence T. Gerrity as general merchandising manager of the fibers company, a post formerly held by Laun.

Frank J. Fitzgerald has been appointed vice president and manager of manufacturing of Celanese Fibers Co., succeeding Taylor. Harlan M. Trammell has been appointed plant manager of the Celanese fibers plant at Rock Hill, S. C., a post formerly held by Fitzgerald

Loughlin said the new set up represents a more logical alignment of Celanese products from marketing and manufacturing standpoints. The Fibers company is now responsible for manufacturing and marketing all Celanese chemical fibers and for marketing Fortrel; the Plastic Products company makes and markets plastic film, sheeting and blow-molded products; the Chemical company makes and markets various chemical items, and the Polychem company makes and markets basic polymers and plastic molding compounds.

"Celanese has expanded and diversified tremendously during recent years", Loughlin said. "Our 1959 sales, for example, reached an all-time high of \$265,235,000. This represents an 80% sales growth over our 1954 volume. To sustain this growth trend during the future, we will be working to further broaden the Celanese basic technological position in polymer chemistry, capitalize on future opportunities to enter new markets and improve the profitability of our business."

Left to Right: P. H. Conze; L. F. Laun; F. J. Fitzgerald; L. T. Gerrity









Here's a useful

stiffness test for threads, twines

By Erb N. Ditton
TEXTILE CONSULTANT

RELATIVE STIFFNESS, or the degree of pliability of threads and twines, is often an important quality characteristic for many end uses. The starched cotton and bonded synthetic braids used by the shoe industry as well as the natural fiber and synthetic waxed cords used in the electronic industries are only a few of the many instances in which stiffness must be controlled.

The measurement of stiffness in threads and twines presents differences and difficulties not encountered in the measurement of this property in fabrics. For this reason the standard fabric stiffness tests such as the Heart loop and cantilever tests have never proven successful. Certain government specifications, such as MIL-T-713A "Waxed Electric Cord and Tape" nevertheless specify the cantilever test. But the results are not considered satisfactory as regards repeatability. In fact, makers of cantilever test equipment for fabrics do not recommend its use on threads or twines.

A simple, reliable and practical method of testing thread and twine stiffness, which has been proven to exhibit good repeatability in actual use, is described below.

Purpose

To measure the degree of pliability of thread or twine within the limits required by the end use of the product.

Equipment

Sheet of paper with a circle of 3½ inch diameter and 9.82 inch circumference, mounted on a piece of wood or stiff cardboard. A scale with graduations of 5/16 inch interval for each unit of 10 stiffness points should be drawn through the center, as shown in Figure 1. Just above and below the point A, two

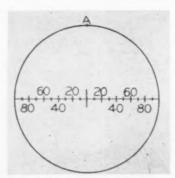


Figure 1

small holes accommodate a thin loop of wire, with the loose ends extending below the mounted circle.

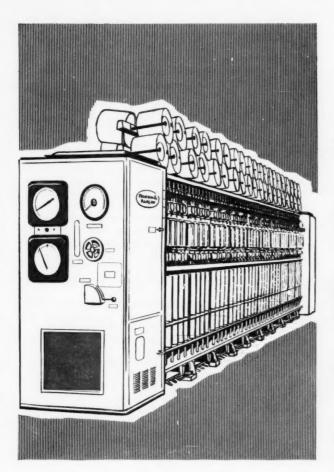
Procedure

- Cut one 10¼ inch and one 100 inch length from the specimen. (Avoid outside layer, which may have been disturbed by prior handling. Operators' hands must be dry, to minimize effects of moisture. All handling should be kept to minimum so as not to affect twist or sizing and bonding materials.)
- 2. Form the 100 inch length into a small ring, through which the 10¼ inch length is then inserted
- 3. With the chart flat, take the two ends of the 10¼ inch length, and bring them together by forming a circle corresponding to the chart circle. At point A, the loose ends will then overlap by approximately ⅓ inch. The overlap must be uniform for each end, since an excess of one over the other will interfere with the repeatability of the test.
- Hold the loose ends in place, by tightening the looped wire at A.
- Move the 100 inch ring or loop to a position diametrically opposite point A.
- 6. Slowly and smoothly raise the mounted chart to a vertical position. The weight of the 100 inch loop will now deform the circle formed with the 10¼ inch length, so that the sides of the deformed circle now fall within the scale graduations.
- 7. After an interval of 10 seconds, note the two values on the graduated scale where the deformed circle intersects. Read each value to the nearest 5 units and average the results, thus obtaining the stiffness index of the material under test. (Example: Scale readings are 40 and 50, therefore, stiffness index is 45.)

Tex Yarn System

Adoption of the first stage of the program for the introduction of the Tex system for designation of yarn number has been proposed by the ASTM Committee D-13 on Textiles, it was announced by the American Society for Testing Materials. The first stage is designed to familiarize everyone working in the textile industry with Tex numbers. The existing yarn count systems will continue in use but a corresponding rounded Tex number will be given in parenthesis after the traditional yarn count or yarn number.

The Tex system has been approved by the International Organization for Standardization. The second stage of the program, after the textile industry becomes familiar with the Tex system, calls for the industry to start numbering and marketing yarns in Tex units; the equivalent traditional yarn number or count would appear in parentheses after the Tex number. In the third stage, only Tex numbers will be given



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Acetate Spinning

comparatively easier to maintain-cap edge or ringand obtains a low twist while being wound. This slight twist increases the resistance of the yarn to filament breakage in the subsequent textile operations (after twisting or warping); quite a desirable feature when dealing with a rather weak yarn (low tensile and abrasion).

The drive for the cap twisting spindle has been solved using high speed individual electric motors with hollow shaft (6), fed from an alternating current generator with variable frequency output.

On the ring-twisters, the most common drive design is the lengthwise running belt, actuated by an electric motor located at one of the ends of the machine side.

During the post-war years a different type of take-up has been added to those already discussed: the yarn tension controlled individual driven take-up (7). This is a parallel winder on which the rotational speed of the spool is governed by a yarn "tension feeler" acting as primary element of an electrical control circuit actuating in turn on the voltage fed to an electrical motor, with a rather high speedtorque sensitivity.

Variable Torque and Speed

As the package builds-up, the torque increases and the shaft speed is decreased by the speed-torque characteristic of the motor. To this reduction of the spindle speed during the package formation, an adjustment is added by the yarn tension-feeler actuating on a movable core of a reactor which is part of a magnetic amplifying circuit.

From the point of view of the process, there are a number of basic conditions to be considered in the mechanical design for which the most adequate solu-

tion must be found.

Each cell of one spinning machine delivers a yarn which must have equal textile properties (serimetric data and dye affinity) to those delivered by the other cells of the same machine.

The identicalness of the properties has to extend further to the yarn produced by other spinning machines, and must also remain constant-within narrow tolerances-during extended periods of time (3 to 8 months.)

This has to be accomplished in continuous, 24 hour per day operation, with a minimum of planned shutdown time for maintenance purposes, because of the rather cumbersome and time-consuming procedure necessary for starting up and restoring the normal spinning conditions after such a shut-down.

Furthermore, since the denier is determined by the ratio between dope metering and drawing speed, the drives of the spinning pumps and the "godet wheels" have to maintain a fixed ratio. Therefore, their independent electrical motors should be synchronous: i.e.: shaft speed governed only by current frequency: (no slip when varying within a range the torque or input voltage).

When changing the denier produced on the machine, a different group of settings on shaft speeds must be easily obtainable and kept constant at their new values.

Finally, when removing a full package from the winding head, the winding must be interrupted during the shortest time possible and the waste produced easily collected and withdrawn. After a careful examination of the requirements with the several design approaches possible, the following basic decisions were taken:

First, Apply the lengthwise-running shaft type of drive actuated by an electrical motor through a PIV speed reducer, for the low shaft speeds only: spinning pumps and oiling rolls.

Second. Apply individual "reluctance" type squirrel cage induction motors (8) to the drive of the Godet wheel of each position,

Apply a reluctance type squirrel cage induction motor also as drive for the spinning pumps shaft mentioned in the first decision, and feed all the reluctance motors from a common variable frequency generating set.

Third. Apply the yarn tension-controlled type of take-up as individual assemblies to each position.

Fourth. Apply a compressed air actuated aspirator to take the yarn during the full package removal, called "doffing".

The general features of the resulting drive are shown in Figure 3.

It is worth mentioning that the package delivered by the yarn tension controlled take-up can be twisted and wound into a regular cone in one operation, with the "two for one twister" coners now available (9) thus reducing labor.

As is now very frequently the case in machine design, none of the individual elements or solutions represents a radically new contribution; the quality of the design being expressed rather by an adequate choice of the different solutions available within a widening field, and the proper distribution of the different components chosen in order to achieve the most efficient operation and simplest maintenance of the whole.

Three Month's Test

The acetate spinning machine described underwent a testing program of three months duration, with satisfactory results, before it was transferred to the production department.

The discussion has concentrated on the problems concerned with the drives because this is the field in which the greatest variations have been observed among the several solutions developed; and for that matter, is still a rather rapidly changing field. In 1956, for instance an improved type of reluctance motor, the so called "synduction" motor became available (10).

The references given to equipment manufacturers include some of the suppliers of the specialized equipment known and tested by the author, and are given only for the purpose of providing the source of the specified technical literature for any interested party.

Specialized Equipment References

- Neumag, Christianstrasse 160-164, Neumuenster/Holstein, West Germany.
- Zenith Products, 58 Chestnut Street, West Newton 65, Mass. (Type: 2 B Pump.)
- Norton Behr-Manning Overseas Inc., Worcester 6, Mass., U.S.A. (Alundum resinoid grinding wheels)
- Industrie Werke Karlsruhe, Gartenstrasse (17a), Karlsruhe, W. Germany.
- 5) Whitin Machine Works, Whitinsville, Mass.
- Siemens-Schuckertwerke A.G. Berlin, W. Germany. (Zwirnmotor type APR 27n-2.)
- Leesona Corp., Providence 1, R. I., U.S.A. Barmag, Remsheid, Lennep, W. Germany.
 Brown Bovery, Mannheim, W. Germany.
- 9) Leesona Corp., Providence 1, R. I., U.S.A.
- 10) Allis Chalmers Mfg. Co., 1148 So. 70th St., Milwaukee 1, Wis.

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Dawbarn Brothers

(Continued from Page 21)

Establishing their new company in an old warehouse in Waynesboro, Va., the Dawbarn brothers by February, 1951, managed to fight their way into production just as their capital was running out. Their first production line consisted of one extruder and orienter bought from a machinery manufacturer and a winding machine handmade by themselves. So short were they of money, that they toiled long hours making the winder, using a hand hacksaw because they could not see their way clear to spending extra money for a power saw.

Their progress at this crucial point was greatly aided by C. Trowbridge Kennedy, a young engineer who came to work for them. Kennedy, now vice president and chief chemist, had worked for Firestone in the development of saran yarn. It happened at that time that Firestone decided to get out of the saran business and laid off a lot of people, including Kennedy. Later Firestone changed its mind and decided to continue with Velon, as it calls its saran yarns. Firestone's loss was Dawbarn's fortunate gain.

Lucky Start

Dawbarn got started in the production of saran 10 and 12 mill monofilaments at a time when demand was good from seat cover weavers. "We were lucky," Buz Dawbarn said, "that we did not have a sales problem at a time when we were struggling to learn how to make the stuff."

Sales problems did come later, of course, and Dawbarn learned not only to make saran but to sell it. By 1957, the firm had more than half the saran seat cover market and reached an annual sales volume of \$3.5 million.

Saran for Dawbarn had proven an eminently satisfactory product. But Buz Dawbarn and his associates were uneasy with a success so heavily dependent on one specialized and limited plastic yarn. "Something will replace saran someday," was the theme Dawbarn constantly harped on during conferences with Kennedy, Joe Whitesel, the firm's technical director, and others on the management staff.

Watching new materials coming over the horizon, Dawbarn's management decided in 1956, that the something that would replace saran would be polyolefin yarns. Trow Kennedy and Joe Whitesel got samples of linear polyethylene from Koppers and in Buz Dawbarn's words, "fooled around with it", getting to know its possibilities as yarn. In December, 1955, the firm produced its first salable linear polyethylene.

The result of these studies was a decision to tie Dawbarn's future to olefin yarns. Working hard and silently ("While others talked about polyethylene, we managed to be the first company in actual production," Buz Dawbarn says) Dawbarn Brothers was launched into the actual commercial production of

linear polyethylene by April, 1956. Early gains made by "DLP", as it was tradenamed, were in cordage and rope, followed by a ribbon monofilament for seat covers.

To keep up with its growth, Dawbarn Brothers in 1955 built a brand new plant at Waynesboro with a floor space of 60,000 square feet. Since that time new additions have tripled this space, and the company owns a large tract of land "out back" for future extensions of its buildings.

Its measure of success with polyethylene led Dawbarn to polypropylene. Again keeping quiet and working hard, the firm got into production of salable propylene yarns for plastic webbing for outdoor furniture a year ahead of its competitors, according to Buz Dawbarn. Today, Dawbarn is turning out propylene for seat covers, rope and cordage. Meanwhile, it has in the works an expanding variety of multifilament and monofilament yarns for the increasing range of end products where these yarns appear to function better or more economically than older manmade fibers.

Under development, for example, at Waynesboro is a propylene monofilament for marquisette curtains. Also, experimental work is going on to use the olefin material in floor coverings. And Trow Kennedy believes that olefin yarns will replace nylon and cotton in coated tarps; that they will find acceptance in drapery and upholstery fabrics for indoor use, and that they have a great potential in fish nets and unnumbered other industrial applications.

Open-Minded as to Future

Currently, Dawbarn's output breaks down into 20% saran, 35% polyethylene and 45% polypropylene. In the future, Buz Dawbarn expects Dawbarn Brothers to grow with the olefins and, perhaps, other kinds of plastic yarns. He is open-minded about future products and materials as long as they fit in with the background of the company and its knowledge of yarn production and markets. He does not expect Dawbarn to move away from the heavier deniers used chiefly for products other than apparel. He intends to leave the fashion field to Du Pont, Chemstrand, Celanese and other giants of the manmade fibers industry.

He is convinced, however, that within this perspective, Dawbarn Brothers will continue to grow. Quite modestly, some think, he has set a sales goal of 20 million pounds of yarn by 1964. Growth on this scale, of course, will make Dawbarn a fairly substantial outfit. But even though Buz Dawbarn is determined that his company will become bigger, he is equally determined that it will remain small as compared with the big companies that are the rule in the manmade fiber producing industry. He likes it this way. It is one of his most ardent beliefs that a small, dynamically managed company can, as he says, "run rings around" the big complicated slow-moving corporations in producing synthetic fibers, and in other fields as well.

Manmade Fiber Output

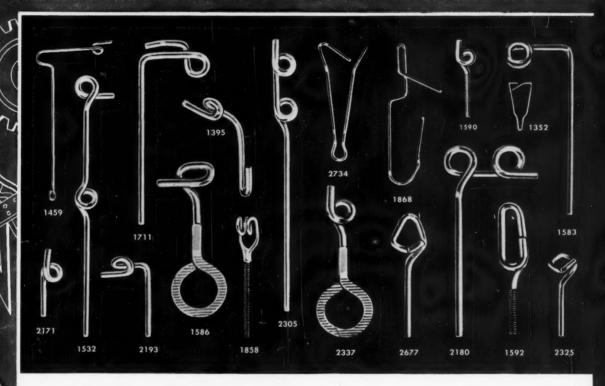
World production of manmade textile fibers in 1959 reached a record 7,010,000,000 pounds, 16% above 1958 and also 8% above the previous high of 6,488,000,000 pounds turned out in 1957, according to Textile Organon, statistical bulletin of the Textile Economics Bureau, Inc.

The 1959 total consisted of 5,560,000,000 pounds of

rayon-acetate, up 11% from 1958; 1,268,000,000 pounds of non-cellulosic fibers, up 38%, and 182,000, 000, pounds of textile glass fiber, up 43%.

The Organon reported that current world manmade fiber producing capacity is 9,527,000,000 pounds. By 1961 the capacity is expected to increase to 10,-593,000,000 pounds or 50% over the current level of production.

MACHINERY and EQUIPMENT SECTION



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Portable pH Meter

Analytical Measurements, Inc., is marketing its new model 700 Big Scale pH Meter, making it possible to read pH values within .02 pH. It weighs 5 pounds, and can be used wherever a standard 115 volt AC outlet is available. The model has a single operating control and a high output electronically modulated amplifier, with printed circuitry and sensitive meter elimination. For further information write the editors.

Tow Processing Machine

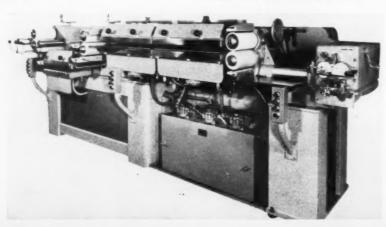
Turbo Machine Co. has developed a new tow processing machine which is said to take the place of three machines now being used by fiber producers. Undrawn thermoplastic fibers in tow band form are drawn, stabilized and crimped in a single operation ready for cutting or producing salable tow. The machine combines the operations of conventional draw frames, conditioning machines and crimpers. The model TB processing machine fits in the tow manufacturing process after fibers are produced through spinnerettes and are collected in tow band form as undrawn fibers in tow form. For further information write the edi-

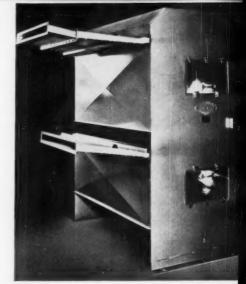
Compact Perspiration Tester

A new AATCC perspiration tester, said to be inexpensive and compact, is now available from Atlas Electric Devices Co. The unit will test from one to 20 samples at a time. It is made of stainless steel with plastic plates and a metal weight. The new perspiration tester is loaded vertically. After the top plate is locked with thumb screws, the weight is removed and the unit is turned over and placed in the oven in a horizontal position. A ten pound dead weight loading is utilized with springs compensating for shrinkage occurring as specimens dry out.



Separate units are recommended for use on acid and alkaline tests to prevent possibility of interaction. A single weight will suffice when two or more units are employed in a single laboratory. The Atlas Model PR-1 perspiration tester is only 3" by 8" by 5\%" high and weighs five pounds, excluding the dead weight. It is a standard stock item, available for immediate delivery. For further information write the editors.







(Top) Saco-Lowell Duo-Jet Cleaner (Bottom) Saco-Lowell Opener-Blender

New Saco-Lowell Machines

Saco-Lowell Shops has secured exclusive rights to sell and service in the U.S. the open-cleaner-blender and the Duo-Jet cleaner manufactured by Davidson-Kennedy. The opener-blender-cleaner, which is based on the design of the SRRL opener, features totally enclosed construction and incorporates several patented improvements. It has been used in mills on all types of wool and cotton stock and on most kinds of staple synthetics with good results. For further information write the editors.

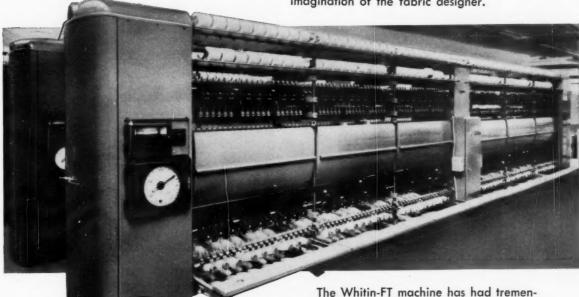
Burner Singe Section

Birch Brothers, Inc., has available a vertical 4 red ray burner singe section, designed for high speed singeing of single strand (2 burners each side) or double strand (1 burner each side) cottons. Dual automatic cloth deflectors and automatic photo electric stop control are part of the model. Birch also has a horizontal open flame 4 ribbon burner singe section designed to give a deep penetrating singe to corduroy as the wales are opened up while passing around water cooled rolls. For further information write the editors.

New Turbo Tow **Processing Machine** give
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Quality!

The quality, uniformity and versatility of yarns processed by the Whitin — A.R.C.T. False Twist machine are unexcelled. These are the properties which your yarn must have to enable your customers to capitalize on the infinite variety of new fabrics made possible by the development of textured yarns.

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MODEL MACHINE

The Whitin-FT machine has had tremendous acceptance in Europe (150,000 spindles) and is creating great interest in textured yarn circles here. FT-processed yarns can make your yarns "wanted" yarns — give them the golden touch of Quality.

WHITIN MACHINE WORKS . WHITINSVILLE, MASSACHUSETTS

Whitin Machine Works is the exclusive licensee of A.R.C.T. in the United States, Mexico and Canada. The FT machine is manufactured by Ateliers Roannais de Constructions Textiles, Roanne, France.

Faster delivery

of thread guides

New inventory program at American Lava also cuts operating costs, stabilizes prices of ceramic thread guides and similar parts used by mills.

By R. B. Williams,

MANAGER, TITANIA DIVISION, AMERICAN LAVA CORP.

MPROVED customer service, reduced operating costs and stabilization of prices are some of the benefits derived from establishing an active inventory program for ceramic thread guides and other dielectric ceramics manufactured at American Lava Corp., a subsidiary of Minnesota Mining and Manufacturing Co. (3M), St. Paul, Minnesota.

The production of technical ceramics is a custom manufacturing operation. Every item on a list of more than 80,000 different ceramic parts produced at American Lava since the firm was founded in 1902 is based on customers' design and specifications. Because of the "job shop" nature of our operation, the establishment of an inventory program was considered for many years to be impractical.

Yet, in 1959, as a result of a program originated two years earlier, we shipped 25% or 30% of our thread guide sales from stock and we believe that our goal of 50% is within sight .

Although we had learned to adjust to many of the difficulties of custom manufacturing and our customers had learned to accept the lengthy lead-time required for some orders, we recognized that production costs could be reduced and customer relations improved by establishing a stock control pro-

An analysis of thread guide orders processed in one year illustrated this fact. During that year, we processed 7,500 orders averaging only 1,000 parts per order. Taken to its extreme, this could mean an average of 30 expensive set-ups per day. In the case of common, but low volume items, lead-time of up to six weeks was required.

In initiating our inventory program, we had three things to determine—which parts to stock, how many of each to place in inventory and when to order for inventory replacement.

To determine which parts to stock, we studied the preceding two-year period, picking out the parts with the greatest volume and the most constant reorder history. At the same time, the function of each part was reviewed, to forecast its future demand as well as we knew it.

Calculations to determine the optimum number to stock was based on long established economic order quantity and on principals of inventory control and production planning developed in the last ten years by several leading universities. The 3M Applied Mathematics and Statistics group was called on to assist in processing this data and in assigning control figures.

The point at which we re-order parts for stock is individually set for each item, based on the set-up costs and the forecast sales. The complex and expensive items are run in quantities as large as possible, consistent with anticipated volume. At the same time, the order history of every item is reviewed when it reaches the re-stocking point, to determine the most practical number to be made during the coming production run.

Our basic aim is to produce the optimum number of each part at one time, in order to make best use of capital invested in inventory.

During the first year the inventory program was in effect, we stocked approximately 30 parts, selected on the basis of our study. At the present time, there are nearly 200 thread guide items carried in inventory. The list is constantly changing, never allowed to become static, since every part not in stock, but ordered two or more times a year, is considered for possible addition to the inventory list.



FOR FASTER DELIVERY—Under new inventory system at American Lava Corp., customer orders are filled from stock in process at time order arrives. Here guides, intended for inventory, are being diverted to fill order, speeding up delivery time by as much as one-half.



FINAL CHECK—Parts for finished inventory are inspected before they are stored in new American Lava ship-from-stock program.

Further efficiency is achieved through careful attention to the degree of completion at which the various products go into stock. Since one style of thread guide, for instance, may be ordered with different finishes, the product may go into inventory unpolished, then be put through this final operation at the time the order is received. In some cases, a frequently ordered item may be stocked in several polishes, with replacements supplied from unfinished inventory. Some items are stocked in 40-inch lengths, the maximum size ordered, then cut to length at the time of ordering, allowing two weeks to cut to length, finish and deliver. This practice has shortened the four to six week delivery dates previously quoted.

At other times, customer orders are filled from stock in process at the time the order arrives. Part of the production run may be diverted to special finishing or processing, instead of filling the order from stock. These shipments are not included in the "shipped from stock" figures quoted earlier.

As a result of the success achieved in the inventory program so far, a further innovation is being initiated at American Lava. Leading thread guide customers will receive a monthly inventory listing of all parts in stock, including the number on hand, making it possible to plan orders on the basis of items carried on the inventory lists. This is similar to a practice employed in the past for dielectric ceramics products, where monthly reports on nearly 100 items, ranging in stocks of 100,000 to 3,000,000, are supplied.

A further service is being provided for several major purchasers of thread guide products, in the form of a book of detail drawings of parts to their



READY TO GO—Under new system, same day shipment of custom-made guides is possible.

specifications carried in inventory. In addition, prints of several "stock" American Lava products will be included in each book.

The chief advantage expected from this service is a reduction in the number of custom-made designs initiated by customers when planning new machine designs and production set-ups. Utilization of stock designs will save them the high costs of engineering and tooling costs.

Obsolescence of parts is the chief danger we face in stocking parts as a voluntary service for our customers. So far, we have been successful in not being caught off-guard, due largely to our selection of products going into inventory, our knowledge of the textile industry's machine and equipment needs and constant communication with our customers. The gamble on obsolescence has paid off.

The first two years of inventory control have resulted in definite savings to customers, who have been able to order their parts from inventory at mass production prices rather than at single-run production prices. Reduced production costs have been the most important factor in allowing American Lava to hold the line on rising costs and refrain from general price increases.

Another benefit from our product analysis and production-for-inventory program is our freedom to invest in more and better production tooling for individual items, further increasing efficiency and quality, at the same time reducing costs. A final and highly rewarding result of this program has been the increased customer service—an effort that we consider to be nothing less than "good business".

Customs Gets Protest

The Man-Made Fiber Producers Association has filed a strong protest with Customs Commissioner Ralph Kelly against a proposal by the Customs Service to publish names of persons furnishing information on dumping of foreign products in this country. The association pointed out that Congress has neither authorized nor required the Treasury Department to include names of persons or shippers in notices of belief or suspicion that foreign merchandise is being or likely to be sold at less than the foreign market value. Such publicity, the association said, would result in withholding information from Customs.

New Orlon Staple

Orlon Type 72 staple has been added by Du Pont to its group of Orlon acrylic staples. Orlon Type 72 was developed for blending with cotton for use in skin-contact apparel fabrics. The new product is being supplied as 1.5 denier in a cut length of $1\frac{1}{2}$ -inches blendable in the cotton system of manufacture. Du Pont reports that a feature of the new Orlon is its exceptional whiteness.

With Orlon Type 72 established at \$1.08 a pound, Du Pont has repriced its Orlon Type 25 cellulosic blending staple to sell at \$1.08 also; it formerly sold



Modern Fabrics **Demand**

Modern Equipment



New Svetema Dyeing Machine

Typical of the modern equipment installed in Kenyon's continuous program to provide the advanced finishing techniques which modern fabrics demand.

"KENYON OF KENYON, RHODE ISLAND"



NEW FABRICS

NEW YARNS

Veriset Process Fabrics

Stonecutter has developed several of its new Veriset process fabrics for the late winter-early spring markets. One sample garment contains 74% Corval (Courtaulds cross-linked rayon), 18% Eastman Verel (modacrylic fiber) and 8% wool. The fabric is reported to have a wool hand, good tailoring and draping qualities, and a rich wool luster. For further information write the editors.

New Nonwoven Fabrics

Lantuck Division of Wellington Sears Co. has developed two new nonwoven fabrics for use in apparel. The first, Bias, is a bias-stretch interlining fabric, predominantly nylon, with a latex binder. Its applications include men's and women's outerwear, sportswear, rainwear, and children's outerwear. The second, Lofty Lantuck, is a multi-directional high loft fabric designed for use in men's, women's and children's outerwear. Made of 100% nylon, it is said to provide better warmth than conventional batts of the same bulk, and requires no cloth backing or quilting. For further information write the editors.

Dynel Cap Visor

Light field caps styled in the manner of baseball caps and worn as a component of the U.S. Air Force field uniform, are now being made with special visor stiffener fabric of Dynel modacrylic fiber. Specified for this use because it will stay firm, according to its maker, Union Carbide Chemicals Co., Dynel fiber is spun and woven into heavy calendered duck by U.S. Rubber Co. Two plies of the fabric are quilt-stitched inside of the cotton outershell and attached to the cotton crown. The caps are made for the Air Force by H. Bernstein & Co. For further information write the editors.

TDI News

TDI Golf Tournament Well Attended

More than 300 members of Textile Distributors Institute and their guests from among yarn producers, mill management, textile banking, dyeing and finishing firms attended the annual golf tournament of the Institute in June at the Concord Hotel, Kiamesha Lake, N. Y. The high point of the three-day affair was the annual musical lampoon which, as in the past, aimed its tuneful barbs at the textile industry and allied trades.

The entertainment was written by Bud Schlesinger of the Chemstrand Corp., with the help of Bruce Roberts of Eastman Chemical Products, Inc., Lon Nave of Beaunit Mills, Inc., Standish Holmes of American Enka Corp., Arthur Horn of Greenwood Mills, Inc., Herbert Robbins of Cohn-Hall-Marx Co., and Daniel Barnett of Fabrex Corp. The musical show was built around the theme of the presidential campaign and had Lon Nave as its star.

In the golf tournament, the low scorer was Samuel Lippincott, Chemore Corp. Low net for TDI members and winner of the Julius Chopak Memorial Trophy was Shelly Joblin, Burlington Shirting Fabrics Co. Abraham Kirschenbaum, Pedigree Fabrics, won the low gross for members and the Herman Chopak Memorial Trophy.

THE TEXTILE



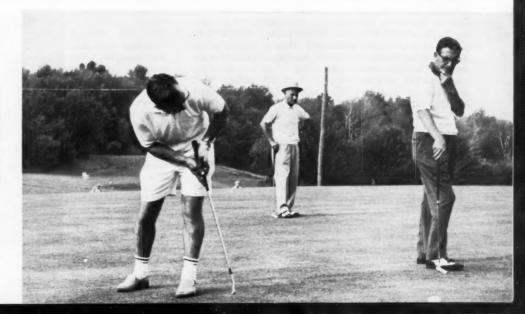
DISTRIBUTORS INSTITUTE, INC.

NEWS AND COMMENT



GRAND FINALE—On stage for the final scene, the cast of the annual musical entertainment of the Textile Distributors Institute sings the group's theme song, "All Hail the TDI". Musical this year, high spot of TDI's golf tournament, was built around timely theme of national presidential election

GOOD SHOT—Golf, as always, was the main preoccupation at TDI's annual outing in June. Here a golfer tries for the hole while his friends ponder his chances. 18 hole course at Concord Hotel, Lake Kiamesha, N. Y., was praised by most players



PAPERS OF THE

AMERICAN ASSOCIATION FOR TEXTILE TECHNOLOGY INC.



AATT

VYRENE

New synthetic elastic yarn

By L. M. Boulware

V YRENE is the registered trade-mark of U.S. Rubber Co. for its new synthetic elastomer created to supplement the range of the company's Lastex yarns. The Federal Trade Commission has adopted the generic name "Spandex" to identify Vyrene and other synthetic elastomers. Vyrene is a manufactured fiber composed of a linear polyurethane. It is a reaction product from materials that originate in the petrochemical industry. Most of the compounding ingredients commonly used in rubber are not required in the manufacture of Vyrene. Physical characteristics may be altered through process control.

Why Another Elastomer?

The need for another elastomer may be explained by briefly reviewing the history of the elastic industry. Prior to 1930 most rubber thread was restricted to coarse counts and used in relatively heavy fabrics. Coarse rubber threads were cut from sheets of rubber. The rubber thread had only functional value. Examples would include the heavy underwear webbing and suspenders common to the 1920 era. During the early thirties, two developments broadened the elastic industry. First, rubber thread was extruded from liquid latex and made available large quantities of relatively fine thread at economic price levels. Secondly, fine covered thread in the form of Lastex, which is also a trademark of U.S. Rubber Co., provided a material that could be incorporated directly into virtually all types of fabrics.

This development of a covered elastic thread contributed to the texture and appearance of fabric as well as provided for the function of stretch. By the 1940's elastic fabrics were manufactured on a great variety of equipment including circular knit, flat bed knit, bobbinet, Levers lace, broadlooms and narrow webbing looms. During the last decade there has been an increasing interest in sheer elastic fabrics. A high proportion of our current Lastex production is made from rubber cores measuring 1/100 of an inch in diameter.

During these last 30 years, great strides have been made in the compounding of rubber to meet thread requirements. The present product in the current popular range of sizes is entirely satisfactory for large-scale use in such applications as swimsuits, for example

But suppose in the pursuit of even finer elastic textiles we ask a rubber compounder to produce thread of say 1/200th of an inch in diameter. For rubber, this is really a tough goal because technical limitations set in due to both chemical and physical factors. For extremely fine sizes, therefore, rubber thread has limitations in both production and use. Also, a deficiency common to rubber goods is the action of solvents such as encountered in drycleaning. These solvents tend to remove the protective agents so that deterioration becomes accelerated.

Vyrene's Properties

Vyrene thread is not subject to oxidation in the same manner as rubber thread. It, therefore, has

Boulware is merchandise manager, Lastex operations, at United States Rubber Co. A graduate of Clemson College in Textile Engineering, he has worked for 21 years in various capacities in production and development with U.S. Rubber. Among his recent assignments have been assistant to the vice president and general manager of the textile division, and plant manager of Winnsboro, S. C. Mills.



L. M. Boulware

Paper presented before the American Association for Textile Technology in New York on June 1, 1960.

excellent shelf-aging properties without serious limitation as regards thread size. Vyrene also has high chafe-resistance so that the two essential requirements for fine thread are met. In addition, our tests indicate that Vyrene thread has reasonable tolerance for drycleaning solvents so that, here again, an opportunity exists to broaden the market.

Physical Characteristics

In designing a new elastomer for the textile market, the existing rubber technology may be used as a yardstick. The tensile strength of Vyrene thread is substantially higher than rubber thread. Good rubber thread generally runs around 6,000 pounds per square inch, whereas Vyrene will run in the order of 8,000 to 10,000 pounds. This provides an advantage, although in most fabrication, rigid materials are incorporated to provide an end, or breaking, point.

The modulus of the material is high and comparable in characteristics to rubber. I might point out at this time that its stretch of 600 to 700% (see Table 1) was selected to compare favorably with the stretch level common in the rubber thread industry. This property could be altered through process control, but the industry as a whole has acquired a great deal of experience with elastomers at this value. Vyrene should, therefore, work in well with existing "know-how".

The reader will also note that the permanent set shows a figure of 10%-12% (Table 1). Here again, the comparison with rubber thread is favorable. Rubber thread generally runs 10 to 15%.

Table 1

BASIC PROPERTIES OF VYRENE

Tensile — 8,000 to 10,000 lbs. per sq. inch Elongation — 600 to 700%

Modulus — 500% stretch—2500 lbs. per sq. inch

Set — 10 to 12%

IDENTIFICATION

Elastic properties with solubility in hot alkali

No figure is shown in Table 1 as a measure of chafe-resistance. We have devised tests for rubber thread in this respect, but have some trouble correlating with actual machine performance. However, the high chafe resistance of Vyrene is easily observed by merely rubbing the fingers over the stretched elastomer and then running the same test on rubber thread.

Problems in Use of Vyrene Fabrics

Vyrene yarns are heat sensitive. Fabric finishing can be carried out successfully at wet temperatures up to 180 degrees F., but trouble may be encountered with temperatures of 200 degrees or over. Also a time factor is involved since the finisher must consider time and temperature build-up. However, the considerations here are generally in line with care that must be given in finishing any fine fabrics. Vyrene is receptive to certain types of dyes. We are currently working with finishers who are more advanced in this technology than we are. With some dyestuffs the pick-up is rather heavy so that it is not always easy to get a uniform dyeing with Vyrene

and the companion fibers. This problem is, of course, similar to that which arises when combining two textile fibers with different dyeing properties. There are dyestuffs that will do a good job on Vyrene covered with the various textile fibers.

Serviceability

Garments made with Vyrene thread stand up well in service. A test we commonly use consists of the following series:

- 1. One week wear test
- 2. 10 commercial laundry & dry cycles
- 3. one week wear service
- 4. 10 laundry and dry cycles
- 5. One week wear.

By distributing garments, a variety of home laundry treatments is provided, and by using two different commercial laundries, we further broaden the test. Performance has been satisfactory with this test employed for such articles as swimsuits, girdles, bras and hose.

In dry-cleaning, we have found that physical properties remain at a satisfactory level after seven cycles. Of course, much more work is in progress on all forms of wear-testing.

Vyrene thread, suitably covered into Lastex constructions, has been successfully manufactured by our customers into a great variety of fine elastic fabrics on various types of machines. These machines include tricot knit, circular knit, full-fashioned knit, Kidde warp knit, woven bobbinet, woven Levers lace, broadlooms and narrow webbing looms. The fabrics from these machines are being used for making underwear and foundation garments including girdles, corsets, brassieres and panties.

Garments of these types can be manufactured with a high modulus and thus have good "kick" as provided by the large number of Vyrene ends available to do the work. Fine woven swimsuit fabrics are also being produced in volume from these ultra-sheer Lastex yarns. In swimsuits we are finding a definite luxury market that can be served by this new fiber. Vyrene's resistance to dry-cleaning makes practical the use of elastic fabrics in outerwear. Of interest is sportswear including golfer's jackets, football pants, ski-suits and windbreakers. Men's suitings are currently being evaluated using moderate amounts of Vyrene. Women's dress wear could also provide a completely new field.

How Vyrene is Supplied

Vyrene is used for the production of Lastex yarn as a core material in the usual variety of styles. In general, however, the policy has been to supply Lastex with Vyrene core to only those applications having special requirements not completely fulfilled with rubber core. At the present time, Vyrene costs substantially more than rubber thread, so that it is merely good business to confine its use to applications where it can earn its way. For example, it is entirely possible that Vyrene would be worthwhile in an application requiring extremely long life and exposure to some of the elements that affect rubber. Another example would be sheer fabrics that have as a requirement extremely high modulus. Another example would involve the use of a very small amount of Vyrene thread to provide low modulus fabric for form-fitting applications. This would be especially true for garments where drycleaning was involved as a factor.

Vyrene is also used as the core material in our new textured Lastex yarn construction. This yarn consists of Vyrene core provided with a loose spiral wrapping of nylon. This new yarn, handled in the stretched position, performs very satisfactorily in looms. As a knitting yarn, it also lends a desirable soft hand to the fabric.

How Much is Available?

Research and development work in Vyrene has extended over a period of ten years, and during the last two years the pilot plant operation has been on a continuous basis. Recently, a production unit was put on the line, and is now producing on a continuous basis. At present, quantities are limited and this material is being channeled to applications that take full advantage of the desirable properties of the product. U.S. Rubber is, of course, expanding its facilities as rapidly as possible and their technical and sales service staff is working very closely with customers in many trades to develop sound and successful uses for this promising fiber. For further information about Vyrene, readers are invited to write the editors.

Discussion

Following the presentation of Boulware's prepared text, there was a discussion period during which he answered questions from the audience. He was assisted by Dr. Robert Gregg, director of research of U.S. Rubber's textile division. The following is a summary of some of the questions and answers.

LAWRENCE SALZMAN (Werner Textile Consultants):

What class of dyes do you recommend for Vyrene and what dyeing temperatures?

BOULWARE: Dispersed and certain acid dyes have proved to be good. However, there are other dyes that will do the job. We mention that 180°F is the highest for good work. But depending on time and temperature, we can go slightly higher.

D. KAPLAN (Maidenform Brassiere Co): I understand that you do not sell Vyrene uncovered. Why is this?

BOULWARE: Vyrene is intended to extend the field of elastic covered yarns. At present, we cannot meet the demand for covered Vyrene yarn. We do not know, of course, what the long-range future may hold here.

BERT SHAPIRO (Peter Pan Foundations): If Vyrene and rubber of the same size were given a heat test, would rubber or Vyrene more closely retain its original characteristics?

GREGG: It depends on the nature of the test you give it. Dry test and air, Vyrene will stand up much better than rubber.

QUESTION: Comparing Vyrene with rubber thread in use on the body, say, in a foundation garment, under conditions of body heat, pressures, etc., does Vyrene thread lose more of its "kickback" than Lastex would in the same size?

BOULWARE: You would have to consider the particular rubber compounds you are comparing with Vyrene. In general, the answer would be: there is no significant difference.



Nonwoven Fabrics Outlook

"Nonwoven Fabrics—Today and Tomorrow" was the theme of a forum-luncheon recently sponsored by the education committee of the Textile Salesmen's Association at the Astor Hotel, New York. Herbert P. James, of the Daily News Record, was moderator of a panel that included John J. Osmar, Celanese Fibers Co.; Joseph E. Corr, Jr., Scott Paper Co.; Doyle C. Nicely, Chemstrand Corp.; John MacIlroy, Chicopee Mills, Inc.; William E. Ix, Jr., Frank Ix & Sons, and TSA president, and John T. Hallinan, Beaunit Mills, chairman of the education committee, also spoke.

Corr said the field had great potential, with four major markets for nonwovens—retail, industrial (rental linens, etc.), components (ash tray cushions, etc.), and specialties (disposable towels, head rest covers for passenger seats, etc.). He emphasized that nonwovens must maintain certain requirements: be inexpensive, durable and disposable, and designed to meet each specific end use.

Osmar stated that, for nonwovens to achieve their potential business, there must be complete cooperation between the development engineering groups of fiber manufacturers, binder manufacturers and non-woven manufacturers.

Needlepunch fabrics, Nicely said, offer a relatively immediate and practical system of producing non-disposable, durable nonwovens which can compete and even replace some styles of conventional fabrics on a performance basis and at lower manufacturing cost.

MacIlroy said the most important characteristics of salesmen of nonwovens are: broad insight in product application to end-use markets; an enthusiastic, optimistic outlook, and the ability to communicate creative ideas to the customer.

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in July 1960. All prices are given as subject to change without notice.

CELLULOSIC YARNS ACETATE

	44.	-
American	Viscose	Corp.

Effective March 22, 1960 Current Prices

		Bright a	ind Dull		
	Int	ermediate Tw	ist**	Spinning	Twist
Denier &		Twister		Cones &	
Filaments	Cones	T-Tubes	Warps	C-Tubes	Warps
40/11	8	S	8	8	\$1.14
45/14					1.03
55/14-20	.99	.97	1.00	.93	.87*
75/18					.90
75/20	.95	.93	.96	.89	.90
100/28	.91	.89	.92	.85	.86
120/32	.82	.80	.83	.76	.77
150/36					.70 .70
150/41	.74	.73	.75	.69	.70
200/54	.70	.69	.71	.66	.67
240/80	200	101	****	.65	.66
300/80	.66	.65	.67	.62	.63

780 .66 .65 Tricot Spools Only. Standard Twist 2¢ Additional. Terms: Net 30 Days.

Celanese Fibers Company

Current Prices

Effective March 22, 1960 cetate Filament Yarn Prices

acetair	e riiur	nent	rum	г
	Bright	and	Dull	

	Interm	ediate Ty	Spinning Twist			
Denier and	4 & 6-Lb.		4-Pound			O Twist
Filaments	Cones	Beams	Cheeses	Cones	Beams	Tubes
45/13	\$1.12	\$1.13	\$	\$	\$1.03°	\$
55/15	.99	1.00	****		.87*	.82
75/20	.95	.96		.89	.90	.68
75/50	.97	.98	****	****	.92	****
100/26-40	.91	.92	*****	.85	.86	****
120/40	.82	.83		.76	.77	****
150/40	.74	.75	.74	.69	.70	****
200/52	.70	.71		.66	.67	****
240/80	.68		****	.64	****	****
300/80	.66	.67	****	.62	.63	****
450/120	.66	.67	****	.62	.63	****
600/160	.65	.66		****		****
900/80-240	.63	.64	****	****	****	5100

900/80-240 .63 .64

* Tricot beams only. This item with Permachem—\$.05 additional.
3T/10 electrical finish available at no premium.
3 to 5 turns—05 denier \$.02 Additional per Turn
Over 5 turns—75 denier \$.04 Additional per Turn
Over 5 turns—150 denier \$.03 Additional per Turn
Over 5 turns—150 denier & coarser \$.02 Additional per Turn
150 Denier 12-TM Tubes \$.03 Additional per Turn
150 Denier 12-TM Tubes \$.05
2-BU and 4-BU Tubes \$.01 Less than 4-lb. Cheeses
2-BU and 4-BU Tubes \$.05
Permium for Serving Tubes \$.05
Part Cone Premiums: 2-lbs \$.05
Part Cone Premiums: 2-lbs \$.05
Under 1-lb. \$.10
Under 1-lb. \$.20
Celaperm Filament Yarn Prices
Intermediate Twist
Spinning Twist

Intermediate Twist Spinning Twist

Denier and	4 & 6-Lb.		-	
Filaments	Cones	Beams	Cones	Beams
55/15	\$1.37	\$1.38	\$1.31	\$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
*150/40	1.11	1.12	1.06	1.07
200/104	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98	2755	
900/240	.94		1000	

900/2400 **. 94

**150/2Z/40 available in all colors. Contact our District Sales Representative for current availability of colors in other denier.

Over 5 turns—55 denier **.04 Additional per Turn

Over 5 turns—100 denier **.03 Additional per Turn

Over 5 turns—100 denier **.03 Additional per Turn

Over 5 turns—150 denier **.02 Additional per Turn

Celaperm Black Yarn Prices

Effective March 22, 1960

		liate Twist	Spinni	ng Twist
Denier and	4 & 6-Lb.			
Filaments	Cones	Beams	Cones	Beams
55/15	\$1.17	\$1.18	\$1.11	\$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	94
150/40	.91	.92	.86	.87
200/52	.85	.86	.81	.82
300/80	.81	.82	.77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78		
900/80	.74	****		****
MI 97 1 0			****	4444

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.
All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

E. I. du Pont de Nemours & Co.

Zero Twist

Textile Fibers Dept. Current Prices

"Acele"* Acetate

Bright & Dull Low Twist Intermediate Twist

Denier & Filament	Tubes	Beams	Cones	Beams	2 & 4 Lb. 56" Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Bms.
40-13	\$1.06 \$	1.13						
45-13	.94	1.02		\$1.11				
55-18	.82	.86		.91***			\$.99	\$1.00
55-24	.82	.86		.91			.99	1.00
75-24	.86***	.89		.90		\$.93	.95	.96
75-50				.92		.95	97	.98
100-32	.82***	.85		.86		.89	.91	.92
120-50	.73	.76		.77		.81	.82	.83
150-40	.66	.69	\$.69	.70	.74	.74	.74	.75
200-60/64	.65		.66	.67	.70	.70	.70	.71
240-80			.65				.69	
300-80	.60	.62	.62	.63	.66	.66	.66	.67
450-120	.61		.62	.63	.66	.66	.66	.67
600-160			.62		.65		.65	.66
900-44					.63		.63	.64
900-240	.61**				.63		.63	.64
1800-88					.61		.61	.62
2700-132					.61		.61	.62
3000-210	-				.61		.61	.62
(A) Regula	r Twist	(2.9	and 5	T.P.I.)-	add	\$.02 to	Interm	ediate

(A) Regular Twist (2.9 and 5.25.)
Twist Price.
(B) 1 lb. %" Tubes—add \$.02 to 2 & 4 lb. %" Tube Price.
"Bright only 2" Tubes.
"" Tricot only.

Color-Sealed

	Zere	Twist	Low	Twist	In	termedi	ate Twi	st
Denier &					Twiste	d Tubes		
Filament	Tubes	Beams	Cones	Beams	2 Lb. 4	& 6 Lb.	Cones	Beams
55-18	\$1.245	\$1.315*	9.9		\$1.35	\$1.35	\$1.37	\$1.38
75-24	1.18	1.28		1.29	1.32	1.32	1.34	1.35
100-32	1.14			1.23	1.26	1.26	1.28	1.29
150-40	1.03	1.06	1.06	1.07	1.10	1.11	1.11	1.12
200-64					1.04	1.05	1.05	1.06
300-80	.95	.97		.98	1.00	1.01	1.01	1.02
(A) Reg	ular Tv	vist-Ac	ld \$.02	to Inte	rmediate	Twist	Price.	
*** Trice	t only.							

Black

				DIGCK				
	Zero	Twist	Low	Twist		Intermedia	ste Twi	st
					2 4 4			
Denier &					Lb. 56"	6 Lb.		
Filament		Beams	Cones	Beams	Tbs.	Tw. Tbs.	Cones	Beams
40-13	\$1.215	\$1.285						
55-18	1.045					\$1.15	\$1.17	\$1.18
75-24	.98	1.08		\$1.09		1.12	1.14	1.15
100-32	.94			1.03		1.06	1.08	1.09
150-40	.83	.86	.86	.87		.91	.91	.92
200-60						.85	.85	.86
300-80	.75	.77	.77	.78	.81	.81	.81	.82
450-120					.79	.79	.79	.80
600-160					.77	.77	.77	.78
900-240.	14				.74	.74	.74	.75
(A) Dee		-l-6 (0 0	and F	TO TO T \		00 4n Tm4	Plantak	Walne

(A) Regular Twist (2.9 and 5 T.P.I.)—add \$.02 to Int. Twist Price.
(B) 1 lb. %" Tubes—add \$.02 to 2 & 4 lb. %" Tube Price. Specialty Yarns
Same Price as Regular Yarn
Same Price as Regular Yarn

Thick & Thin

		ICK CK I			
Denier &	Natu	iral	Ble	Color-Sealed	
Filament	Cones	Beams	Cones	Beams	Cones
200-64 Int. Twist	\$1.05	\$	\$1.15	8	\$1.35
200-64 Reg. Twist	1.08	1.09	1.17	1.21	****
Terms: Net 30 da	sys. Subject	t to char	iges withou	out notice	e.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Dupont's Trademark for its acetate yarn.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current									
"	Estro	n"*	Yarn,	Brigl	ht or	Dull	- W	hite	
41	Regul		Intermed Twis		Low	Twist	Zere Twist	Tri Bea	
Denier Filame	Cones	Beams	Cones	Beams	Севев	Beams	Tubes	Spun	Zere
55/13	\$1.01	\$1.02	\$0.99	\$1.00	\$0.93	\$0.94	\$0.82	\$0.87	\$0.86
75/19	.97	.98		.96	.89	.90	****	.90	****
75/49	.99	1.00	.97	.98			****		****
100/25	.93	.94	.91	.92	.85	.86		****	****
120/30	.84	.85	.82	.83	.76	.77	4124		****
150/38	.76	.77	.74	.75	.69	.70	.66	****	****
200/50	.72	.73		.71	.66	.67		****	****
300/75	.68	.69		.67	.62	.63	.60	****	****
450/114	.68	.69	.66	.67	.62	.63			
600/156	.67	.68		.66	.62	.63	cers	****	****
900/230	.65	.66	.63	.64			.61	****	****
Heavier		.00	.00	.04	****	1100	5.6	eer.c	****

-					
- 6	u	r	re	m	٠

"Chron	nspun''	*—Sta	ndard C	Colors (E	xcept E	Black)
Denier &	Regula	r Twist	Intermed	liate Twist	Low	Twist
Filament	Cones	Beams	Cones	Beams	Cones	Beams
55/13	\$1.39	81.40	\$1.37	\$1.38	\$1.31	\$1.32
75719	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38			1.11	1.12	1.06	1.07
300/75			1.01	1.02	.97	.98
450/114			.99	1.00	.95	.96
900/230			.94	.95		

Current Prices

	"Chromsp	// # D	last.	
Denier &	Regular Twist	Intermed	late Twist	Low Twist
Filament	Cones	Cones	Beams	Beams
55/13	\$1.19	\$1.17	\$1.18	\$1.12
75/19	1.16	1.14	1.15	1.09
100/25	1.10	1.08	1.09	1.03
150/38	.93	.91	.92	.87
200/50	.87	.85	.86	.82
300/75	.83	.81	.82	.78
450/114	.81	.79	.80	.76
900/230	76	74	75	

900/230
900/230
900/230
Prices are subject to change without notice.
Prices on special items quoted on request.
Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

"Estron" is a trade-mark of the Eastman Kodak Company.

Chromspun is a trade-mark of the Eastman Kodak Company.

American Bemberg

Current Prices

	Regular		tion Re			
	No	Turned*		High To	arn Skeins	& Cones
	Turn	Skeins	836	12	15	18
Den/Fil	Skeins	& Cones	Turns	Turns	Turns	Turns
40/30	\$1.49	\$1.95				\$2.08
50/36	1.29	1.55				1.85
65/45	1.22	1.38		\$1.61		1.66
75/60**	1.11	1.25		1.48	\$1.53	1.56
100/74**	1.02	1.15		1.40	1.45	1.51
125/60	1.01	1.12	\$1.16	1.37	2500	2.02
150/120	.99	1.08	1.18	1.33		2001
300/225		1.01	****	100	1.14	2000
900/744	****	.91	****	1811		****
1800/744		.91				****

* Turn includes twists up to 6 turns on 40 and 50 denier, and up

to 5 turns on heavier deniers.

** Spun Dyed Cupracolor Black 15¢ per lb. extra.

"44" HH Spool Spun Yorn

Den/Fil	No Turn Tubes	No Turn Beams	Turn	Turn	12 Turn	Turn	Turn	
			Beams	Cones	Beams	Cones	Cones	
40/30	\$1.35	\$1.35	****	****			****	
50/36	1.05	1.05	****				****	
65/45	1.13	****	****	****		\$1.50	****	
75/45°	1.04		\$1.15	\$1.15	\$1.38	1.38	\$1.46	
100/60°	.96		1.10	1.10	1.30	1.30	1.38	
125/60	.91		1.06	1.06			****	
150/90°	.83	****	.87	.87	1.21	1.21	1.30	
150/120	.87	****		.98			****	
	ble also de		Sand Cham	Y	3314	2 F 4 11		

ble also in Spun Dyed Cupracolor Black at 15¢ per lb. extra. ''44'' HH ''Porfe'' Spool Spun Yorn No Turn 5 Turn Cones \$1.85 1.58 1.48 5 Turn Beams \$1.85 1.58 12 Turn 15 Turn Den/Fil 50/36 75/45 100/60 150/90 300/120 1.78 1.68 1.63 1.88 1.78 1.73 1.48 1.28 1.21

Nub-Lite (Short Nubbi)

Code	Den/Fil	Natural Cones	214 Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
1515	160/90	****	****	\$1.50	\$1.40
1519**	155/90	****	****	1.50	1.40
2008	200/120	****	****	1.11	1.01
3002	315/180	\$1.15	\$1.05		****
4011	410/224	1.15	1.05	****	****
6001	600/360	1.13	1.03	****	****
8001	860/450	1.13	1.03		****

*Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.

** Code 1519 can be run in warp or filling.

			CI	JPION	II Typ	e B			2	1/2 Turn
C	ode			Den/	Fil					Cones
96	50			70/	45					\$1.69
96	80			100/	60					1.53
15	45			150/	90					1.30
97	30			285/	135					1.15
97	92			450/	225					1.15
	14			600/	372					1.12
98				940/						1.02
	"Spun	Dved	Cupracolor	is spun	150, 285,	and	940	deniers	at	35¢ per

pound extra. Cupracolor Black Comes in all deniers."

Price
\$1.25
1.15
1.10
1.02
1.00
1.00
35¢ per

FLAIKONA

Code	Den/Fil	Turned Cones	Price
9699	150/148	2 1/2	\$1.35
9769	300/224	21/2	1.25
9782	450/270	21/2	1.05
9809	600/360	2 1/2	1.05
9840	900/450	2 1/2	1.00
9924	2000/744	2 1/2	.95
"Spun Dyed	Cupracolor Black	35¢ per pound extra."	

"Spun Dyed Cupracolor Black 35¢ per pound extra."
Terms: Net 30 days, F. O. B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F. O. B. delivery point.

Prices are subject to change without notice.

American Enka Corp.

Current Prices

Effective February 29, 1960

Standard Quality Yarns

N	A	T	U	R	A	L
						4

		NATI	JKAL					
			We	aving	SI	keins		
en./Fill.								66
*	Sim (II)		00	eams	-	40	802	Knitting
é	100	gra	6	6	=	ort	100	= =
e e	Luster	2	Cones	ã,	Long	Sp	Cakes	E0
50/18			0					1.63
	E	5 S 4 S&Z	****	8155	****	****	1.52	1.64
50/20 75/10	B		****	****			1.02	2.00
75/18	E	3 S&Z 4 S	****	****	****	4444		1.14
75/30	B	2.5.4S&Z	1 14	1.14	1.32	1.41	1.02	1.14
75/30	B	8 S	1.14	1.14	1.49	1.59	1.12	1.24
75/45	P.E	2.5,4,5S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/60	B.P						1.04	
100/14	B	3,4 Z 3 S&Z	1.16		1.15	1.23	.90	
100/40	B.E	12 S&Z	8988				.00	1.29
100/40	B,P,E	4,5 S&Z	****	00	2006	5+++	.90	.98
100/40	B,F,E	6 S	1 177	.98	1.34	1.44	1.09	
100/40	B.P	2.5.4S&Z	1.17	.98	1.15	1.23	.90	
100/60	B	4 S&Z					.90	
100/60	E	2.5 S	1 00	1.00	****	****	.92	
125/40	E	3 Z	1.00				.87	.90
125/50	B.P	3 S	.96	.96	+117			
	B,E	0	.745				****	****
150/40	B.P.E	2.1,3S&Z		.82	.96	1.03	.78	.82
150/40	B.E	5 S&Z	.82		1.15	1.25	.86	.00
150/40	B.E	8 S&Z	.90	.90	1.20	1.30	.91	
150/40	E	2.1 S&Z		.83			.79	****
150/90	B	2.1 S&Z	.83	.81	.94	1.01	.77	****
200/40	P	3 Z	.81		.94	1.01	.77	.81
200/40	P.E	2.4 Z	1514	****	.93	1.00	.77	.80
250/60	E	3 S	.81	.85				.00
300/30	B	3.2 Z	.73	.76	****	****	****	****
300/40	B.E	3 S	.73	.76				****
300/50	B.P.E	2.1 S&Z	.73	.73	.82	.89	.71	.73
300/60,120	B	3.5 S	.73	.73	.82	.89	.71	
300/60	B	6 S	.86	.86		1.00	.84	
300/60	В	8 S	.88	.88	4.0.0		.86	****
300/60 300/120H.T.	B	2.5 S	.75	.75	1307	1111	.73	****
300/120H.T.	В	3 Z	.85			****	.83	
	B	3 S	.69	.71	***-	****	.67	
450/60	B.E	3 S	.69	.71	.78	.85	.67	
450/80	B.E	3 S	.73	.75	.10	.00	.01	
600/80	B.E	3 S	.69	.71	.78	.85	.67	
600/120	B,E	3.4 S	.69	.71	.78	.85	.67	****
900/120	В	3.4 S	.71	.71		.00	.69	
900/120H.T. B = 1	Briglo	0.4 9		Engl	o (Du		.00	
P = 1	Derigio (S	Semi-Dull)	H.T	- H	igh To	enacit	v	
F = 1	CITETO (C	CILL-AFGELL	44.4	- 41	agent at	A	,	

Jetspun® (Colored Yarns)

			Weavin	E	
Den./Fil.	Tenacity	Turns	Cones	Beams	Colors
100/40	Regular	2.5S	\$1.35	\$1.35	All
150/40	Regular	2.1S	1.17	1.17	All
200/40	Regular	8.3S	1.28	1.28	All
300/40	Regular	3.45	1.09	1.09	All
300/120	Regular	2.15	1.09	1.09	All
450/80	Regular	3.0S	1.05	1.05	All
600/80	Regular	3.4S	1.04	1.04	All
300/40	High	3.45	1.11	1.11	All
600/80	High	3.4S	1.07	1.07	All
900/120	High	3.48	1.06	1.06	All
@ Registered	Trade Mark	for America	n Enka	Solution-dyed	Rayon
Yarn.					

Skyloft (Lofted Rayon Filament Yarns) Natural and Jetspun®

			C	ones or Tub	
Denier 1000	Denier per Filament 7.5	Twist 3.5S	Natural \$.92	Black \$1.17	Other Colors \$1.17
2200	15	3.5S&Z	.67	.77	.84
2700	15	3.5S&Z	.67	.77	.84
4300	15	3.0S&Z	.66	.76	.83
5300	15	3.0S&Z	.65	.75	.82
2000					

American Viscose Corp. Effective October 13, 1959

Graded Yarns

Denier	Filament	Type	Short	Long	Cones	Beams	Cakes
		Regu	lar Turns				
75	10-30	Bright	51.41	\$1.32	\$1.14	\$1.14	\$1.02
75	30	Dull			1.14	1.14	1.02
100	14-40	Bright	1.23	1.15	.98	.98	.90
100	60	Dull	-011		1.00	1.00	.92
150	24-40	Bright	1.03	.96	.82	.82	.78
150	46	Semi-Dull	1.03	.96	.82	.82	.78

TEXTILE

- NEWS BRIEFS

Hotte Receives Degree

George H. Hotte, director of Allied Chemical's Fiber Marketing Department, was the recent recipient of an honorary Doctor of Textile Science degree, awarded by the New Bedford Institute of Technology, New Bedford, Mass. A graduate of the Institute, Mr. Hotte also holds a Master of Science degree from the Massachusetts Institute of Technology, where he was a member of the faculty.

New Torrington Plant

The Torrington Co.'s new plant, Walhalla, S. C., is scheduled to start operations this summer. The plant will specialize in fine-gauge latch knitting machine needles used in the manufacture of seamless hosiery.

Quality Control Book Updated

The fourth edition of "Quality Control" has been published by the Industrial Press, 93 Worth St., New York 13, N. Y. The new edition includes two chapters on the use of test data in establishing realistic specifications, which should be of special interest where strict tolerances are required, such as for wash and wear fabrics. The book, written by Norbert Lloyd Enrick, is recommended as supplementary material for his Modern Textiles Magazine handbooks. The book contains 224 pages, 12 tables, and 36 charts and diagrams. Copies at \$5.50 plus postage may be ordered directly from the publisher.



G. T. Metcalf

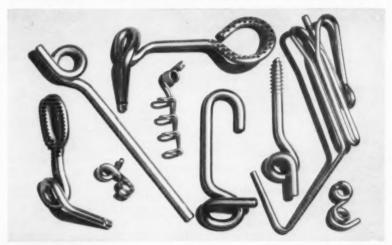
Metcalf 'Ad Man of Year'

George T. Metcalf, received the Silver Medal Award as Ad Man of the Year from the Advertising Club of the Providence Chamber of Commerce at its recent annual dinner. Metcalf was cited for "distinguished service in the field of advertising over the span of almost half a century, a continuous devotion to the principles and practice of our profession interrupted only by his military tour of duty during the First World War."

WHEN IT COMES TO PROTECTION ...



HARD CHROMIUM PLATING





The Leading Name In Textile Hard Chromium Plating. Chromium plating, as does everything else, comes in various qualities, so you owe it to yourself to buy the best protection possible. Our customers expect the best Hard Chromium Plating when they buy Walhard.

During 26 years of successful experience, we have proven that fast, efficient service combined with Hard Chromium Plating "know how" mean "dollars in their pockets."

Be sure you are getting quality Hard Chromium Plating — both satin and polished finish — It costs no more and lasts longer.

WALTON and LONSBURY

79 NORTH AVENUE

ATTLEBORO, MASSACHUSETTS

150 200 250 300 300 300 450 600 1200 2700	40 90 10-44 60 15 30 44 234 60-100 100 50-100-150 75 150	Bright		1.01	.94 .93 .85 .82 .78 .78 .78 .78	.82 .83 .81 .80 .78 .73 .83 .69 .69 .69	.82 .81 .80 .78 .85 .73 .71 .71 .71	.78 .79 .77 .77 .71 .81 .67 .67
		Ext	ra Turns	Per	Inch			
150 200 300 300 300 300 600	40 44 15 44 44 120 30	Bright Bright Bright Bright Bright Rayflex Bright	6-Turns 6-Turns 5-Turns 4.3-Turns 6-Turns 6-Turns 5-Turns	.97	\$1.15 1.05 .90	\$.90 .96 .86 .81 .86 .93 .82	\$.90 .96 .86 .86 .93 .82	.79 .84 .80
			Rayflex	Yarn	S			
150 200 300 450 600 900	40-60 75 60-120 120 234 350	Rayflex Rayflex Rayflex Rayflex Rayflex Rayflex		\$.80	\$.85 .84 .75 .71 .71	\$.85 .84 .75 .71 .71	\$.81 .80 .73 .69 .69
		Th	ick & Th	in Yo	arns			
150 200 300 450 490 900 920	40-90 75 120 100 120 350 120	Bright a Bright a Bright a Bright a Dull Bright a	& Dull & Dull & Dull & Dull	\$	\$	\$1.18 1.08 .98 .92 .98 1.03 1.03	\$	\$

Colorspun Yarr	
	1

		Cones/Tubes
Denier	Type	Beams/Spools
75	Regular Strength	\$1.71
100	Regular Strength	1.35
150	Regular Strength	1.17
200	Regular Strength	1.14
300	Regular Strength	1.09
450	Regular Strength	1.05
600	Regular Strength	1.05
900	Regular Strength	1.05
300	High Strength	1.11
450	High Strength	1.06
900	High Strength	1.06
300	Regular Strength 5-Turns	1.19

Avicron Yarns Avicron Yarns

Denier	Filament		Cones/Tubes Beams/Spools
1800	100-200	Singles & 2 Ply	\$.61
2700	150-300-980	Singles & 2 Ply	.58
2700	980	Singles 5 TPI	.61

Viscose Filament Yarns

riscose i nament ran	13
The following material deposit charges are require	ed:
Metal Section Beams	\$170.00 each
Metal Section Beam Racks	75.00 each
Metal Tricot Spools-14" flange	30.00 each
21" flange	60.00 each
32" flange	150.00 each
Metal Tricot Spool Racks-14" flange	135.00 each
21" flange	100.00 each
32" flange	75.00 each
Wooden Tricot Spool Crates	20.00 each
Cloth Cake Covers	.05 each
Same to be credited upon return in good condi-	tion-freight collect.

Celanese Fibers Company

Effective June 24, 1959

Viscose Rayon Filament Yarn Prices-Bright and Dull

Denier/Fil/ 75/30/3	Twisi	Beams	Cones 1.10	Cakes .98
100/40/2Z		.97		
100/40/3			.96	.88
100/40/5			1.02	100
100/60/2Z	NS		.96	
100/60/3			.98	.90
125/40/2Z		.93		100
125/40/3		100	.94	.85
150/40/0	NS		.741/4	.00
150/40/2Z	4100	.81	/ E	
150/40/3			.791/4	.76
150/40/5			.90	.86
150/40/8			.95	.91
150/90/0	NS		.771/2	.04
250/60/0	NS		.74	
250/60/3	240		.80	.77
300/50/0	NS		.70	
300/50/2Z	240	.72		
300/50/3			.70 1/2	.69
450/120/0	NS		.67	.00

450/120/0 NS
Terms: Net 30 days. Transportation prepaid or allowed to any
destination in U. S. A.
Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices Effective with orders June 24, 1959

Bright and Dull

			Drigin and Dai			
		Turns/			Cones (A	
Den.	Fil.	Inch Up to		Beams	Tubes	Cakes
40	20	3	Textile "Cordura"*	Deams	\$1.97	\$1.92
50	20	3	Textile Coldula		1.70	47.00
50	20	3	Textile "Cordura"		1.72	1.67
50	35	3	Textile "Cordura"		1.77	2.00
75	10	3	Bright		2.00	1.02
75	30	3	Dilgit	\$1.14	1.14	1.02
100	40	3	Bright	.98	.98	.90
100	60		Dull	100	1.00	.92
125	50	3 3	2000	.96	.96	.87
150	40	3		.82	.82	.78
150	60	3	Bright	.82	.82	.78
150	60	3	Textile "Cordura"		.875	.845
150	90	3	Dull		.83	
150	100	3	Dull		.83	
300	50	2.5		.73	.73	.71
300	120	3	Textile "Cordura"	.74	.74	.72
450	72	3		.71	.69	.67
600	96	3 3 3	Bright	.71	.69	.67
600	240	3	Textile "Cordura"	.72	.70	
900	50	3	Bright	.71	.69	.67
900	144	3	Bright	.71	.69	.67
1165	480	3	Textile "Cordura"	.72	.70	.68
1800	100	3	Bright		.69	
2700	150	3	Bright	.71	.69	
			Thick and Thin			
100	40	3	#7 Bright		1.42	
150	90	3	#7 Bright		1.08	
200	80	3	#7 Bright		1.08	
450	100	3 3	#7 Bright		.92	
1100	240	3	#60 Bright		1.03	
2200	480	3	#60 Bright		.98	
			Monofils			
150	1	3	Bright	1.35	1.35	
300	1	3	Bright	1.15	1.10	
600	î	3	Bright		1.00	
			Plush			
300	30	3	Dull	.85	.81	

(A) 2¢/lb. additional for cones less than 3#.

Terms: Net 30 days.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

""CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective June 29, 1959

Continuous Process Textile Yarns

Denier	Fila- ment	Turns per In.	Туре	Beams	2.8# Cones	4.4# Cones and Tubes
150	40	2.5"S"	Bright	.82	.82	
200	20	2.5"S"	Bright	.81	.81	
300	44	2.5"S"	Bright	.73	.73	
450	60	2.0"S"	Bright	.69		.69
600	90	1.5"S"	Bright	.69		.69
900	50	2.0"S"	Bright	.69		.69
900	150	2.0"S"	Bright	.69		.69
1100	480	2.0"Z"	Bright extra			
			strong	.66		.66

Lustre #4 is semi-dull.
Prices are subject to change without notice.

Strawn Monofilament

Denier	Fila- ment	Turns per In.	Туре	4.4# Cones	Spools and Tubes
450	1	0	Bright and Dull	1.00	1.05
450	1	2	Bright and Dull	1.00	1.05
1250	ī	0	Bright and Dull	1.00	1.05
1250	1	2	Bright and Dull	1.00	1.05

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.

Prices are subject to change without notice.

North American Rayon Corp.

Current Prices

Carrent Frices					
Denier/Filament Normal Strength	Twist	Knitting* Cones	No Twist Knitting Cones	Weaving Cones, Velvet Cones, Beams, Tubes**	
Yarns - NARCO	3.5			1.14	1.02
75/30	3.0			1.27	2102
75/30	. 7				
75/30	12			1.35	
75/30	15			1.37	
75/30	20			1.40	
100/40/60	3.5			.98	.90
100/40	12			1.22	
125/25/60	3			.96	.87

Du Pont Fiber Patent

Tri-lobal cross-section fibers, said to impart to fabrics a three-dimensional luster and feel, plus greater opacity and cover, are being produced by Du Pont under U.S. Patent 2,939,201. Du Pont has presently in commercial production four products covered by the patent: Antron Type 560 nylon, used in apparel; Type 90 nylon, used in tricot and hosiery: Type 501 nylon, used in rugs and carpets; and Dacron Type 62 polyester fiber, used in womenswear.

Personnel Notes

Harold Welburn has been named executive vice president and a member of the board of directors of The United Piece Dye Works.



R. L. Wakeman

Dr. Reginald L. Wakeman has been appointed vice president and director of research & development at Onyx Chemical Corp.



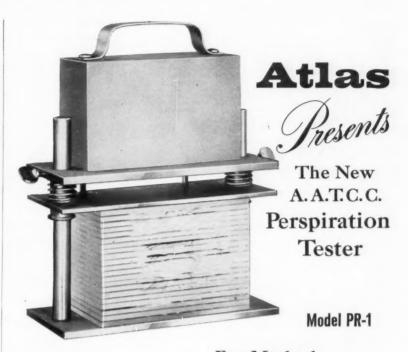
J. F. Campbell

John F. Campbell has been named director of public relations for the American Cotton Manufacturers Institute.



P. C. Maylone

Paul C. Maylone, vice president of James Talcott, Inc. has been named to head the company's Rediscount Division.



For Methods 15-1960 Colorfastness to Perspiration 63-1957 Colorfastness to Water

This inexpensive and compact model offers many advantages not found in previously available equipment.

As illustrated, the unit is loaded in the vertical position. After the top plate is locked in place by the thumb screws, the weight is removed and the unit turned over on its back and placed in the oven in the horizontal position.

A 10 pound dead weight loading is utilized with the springs compensating for any shrinkage which may occur as the specimens dry out.

Separate units should be used for the acid and alkaline tests as there may be an interaction if both are used in the same unit. Where two or more units are to be used in one laboratory only one weight is needed.

Specifications

1 to 20 samples may be tested simultaneously

Weight of unit and plastic plates 5 lbs.

Dimensions 3" x 8" by 5\(^y\)4" high Stainless steel construction except for plastic plates and weight Model PR-1 A.A.T.C.C. Perspiration Tester complete with 21 plastic plates but not including weight \$34.00

P-9901 Weight only for PR-1
Perspiration Tester \$7.00
Stocked for immediate delivery

F.O.B. our plant Chicago . Shipping weight: 15 lbs.



ATLAS ELECTRIC DEVICES CO., 4114 N. Ravenswood Ave., Chicago 13, Illinois, U.S.A.
Sales representatives in principal cities throughout the world

150/42	0		.74 1/2		
150/42/60	3	.80 1/2		.82	.78
300/75	0		.71		
300/75	3	.73		.73	.71
900/46	2.5	.69		.69	
1800/92	2.5	.69		.69	

Oiled Cones \$.01 per pound extra for Graded Yarns only.
 1 lb, Tubes \$.02 per pound extra for Graded Yarns only.
 1 lb, Tubes \$.02 per pound extra for Graded Yarns only.
 1 maintain the state of the Mississippi goint, minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tenneasee allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point.
 Prices subject to change without notice.

TRIACETATE

Celanese Fibers Company

Current Prices	Arnel Yarn Prices
	Bright & Dull

Effe	ctive	August	19,	1958

Ellective ragasi	17, 1750		
Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/WKZ/15	\$	\$1.16	\$
55/2Z/15 75/WKZ/20	1.32	1.33 1.16	****
75/2Z/20	1.21	1.22	****
100/2Z/26	1.14	1.15	
150/2Z/40	.95	.96	****
200/2Z/40		nu:	4117
200/2Z/52	.92	.93	1.25
300/2Z/80	.87	.88	1.23
450/2Z/120	.86	.87	- 1111
600/2Z/160	.85	.86	1.21
3 to 5 Tu	rne on Cance or	Penme # 02 Addi	tional

3 to 5 Turns on Cenes or Beams—\$.02 Additional Premium for Black Arnel—\$.25 Per Pound Premium for Navy Arnel—\$.25 Per Pound Premium for Navy Arnel—\$.37 Per Pound Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request. Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective December 23, 1959

Industrial Yarn Prices

Prices Subject to Change Without Notice

Frices Subject to Chang	ge without Notice	Stand-
	Denier/Filament	ard
TYREX (ENKA II Improved)	1100/720	.57
	1650/1100	.50
	2200/1440	.49
	*3300/2160	.49
TYREX FABRIC (ENKA II Improved)	1100/720	.69
	1650/1100	.59
	2200/1440	.58
SUPRENKA M	1230/720	.57
	2400/1440	.49
	1800/1100	.50
	1870/1100	.50
	2200/1440	.49
	1600/1100	.52
	*3300/2160	.49
TEMPRA	1100/480	.56
A 2007 A 2007	1130/480 (5.0Z Twist)	
	1230/480	.56
	1230/480 (5.0Z Twist)	.60
	1650/720	.49
	1820/720	.49
High or Low Elongation	2200/960	.48
anga or bow bioligation	2400/960	.48
TEMPRA—SEWING YARN	1230/480	.60
The state of the s	1750/720	.50
	1820/720	
HIGH TENACITY	300/120	.49
	900/120	.75
REGULAR TENACITY	100/40	.71
* Currently available only in Falca 1	100/20	.98

*Currently available only in Enka III.

Terms: Net 30 days, f.o.b. Enka, North Carolina, or Lowland, Tennessee; minimum freight allowed to first destination east of the Mississippi River.

*Tyrex certified viscose yarn.

American Viscose Corp. Effective Dec. 23, 1959

Tyrex*	Viscose Tire	Yarn	
Filament 980	Twist	Beams .57	

	Tire Fabric	Made with	Tyrex* Viscose	
1650	1500	Z	.50	****
1650	1500	0	.50	.50
1100	980	Z	.57	

		Tire Yarn and C	ord	
Denier 1100	Filament 980/2	Carcass .69	Top Ply	Breaker .69
1650	1500/2	Factor Open-525	300-490	115-275

Factor determined by dividing total ends by picks.

Tyrex is a collective trade-mark of Tyrex Inc. for Viscose Tire Yarn and Cord.

Rayon Tire Yarn

		tarn			
ament	Twist	High Strength (Unslashed)	High Strength	Super 210-310	"Rayflex" 120-220-32
490	0-Z	****	.56		
980	0-Z	****		****	.57
490	Z	.56			
490	Z	.56			2417
980	Z	.49	.49	.49	
980	0		.49		****
1500	Z	****		****	.50
1500	0				50

.50

.49 .49

75.00 each 3.50 each

High Strength available on cones-tubes-beams.

Denier Fil

2200 2200

High Strength and Super "Rayflex"

0 Twist—available on 10# cones—beams—10# tubes. Z Twist—available on beams.

Avisco	

	American Thread		
1100/980 Super "Rayflex"	0-Z	Cones	.62
1500/980 Super "Rayflex"	0-Z	Cones	.59
1780/980 Super "Rayflex"	0-Z	Cones	.55
Also available in red at	.07 premium.		

Chafer Yarn

1100/490 High Strength 5Z All yarns sold "Not Guaranteed for Dyeing". Twist 80

Tire Fabric

Denier	ment		Type		Carcass	Top Piy	Dreaker
1100	980	Super	120-220-320		.69	.69	.69
				Factor*	Open-525	300-490	115-275
1650	980	Super	110-210-310		.58	.59	.615
1650	1500	Super	120-220-320		.59	.60	.625
* Fac	ctor de	etermin	ed by dividin	ng total e	ends by pic	ks.	
Cord	on co	nes in	regular Tire	Yarn twi	sts same a	s fabric p	orices.
			inations-pri				
Whe	n supp	lied, y	arns and core	is in spec	ial packag	es take p	remiums
indicat	ed.						
	10.5 oz	Ward	well Tubes				
	1.5 lb	Regula	r Braider Tu	bes			
		Tubes					5
The	follow	ing der	nosit charges	are made	on invoice	es:	

Same to be credited upon return in good condition-freight collect. Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of the Mississippi River, in which event the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.

same.
Price subject to change without notice.

Celanese Fibers Company

Effective December 27, 1955

Beams Crates (Metal) Fabric Shell Rolls

	Fortisan Yar	n Prices	
Denier 30/2.5/40	Packages 2 lb. Cones	Natural \$3.00 lb.	\$3.35 lb.
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120 120/2.5/160	4 " "	2.25 "	2.40 "
150/2.5/180	4	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 **	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A. Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Fortisan-36 Rayon Yarn Bright

Denier and Filament	Twist	4# cones	8# cones	Tubes	Beams
270/280	0.82	\$2.30			
300/280	0.82	\$2.05			
300/280	3Z	\$2.20			
400/400	0.8Z	\$1.75			\$1.70
400/400	0			\$1.75	
800/800	0.82	\$1.25	\$1.25		\$1.20
800/800	3Z	\$1.40			
800/800	0			\$1.25	
1600/1600	0.8Z	\$1.15	\$1.15		\$1.10
1600/1600	21/2Z	\$1.30			
1600/1600	0			@1 15	

1600/1600 0 \$1.15

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Denier 1100

Hubert C. Gainer has been named yarn and staple development supervisor for the Fibers Division of American Viscose Corp. Dr. Herschel H. Cudd, vice president in charge of research and development at American Viscose has been named president of AviSun Corp. Dr. Cudd succeeds Chalmer G. Kirkbride who has become vice president in charge of research and engineering for Sun Oil.

Jane Driscoll has been appointed advertising manager for women's wear and Sue McGeachin, advertising manager for home furnishings at Celanese Fibers Co.



R. Leeson, Jr.

Robert Leeson, Jr., son of Leesona Corp.'s president, has joined the company, making the fourth generation of the Leeson family to take an active part in the company's operation.

T. J. Jackson has been appointed sales engineer of the Saco-Lowell Textile Machinery Division. He will make his office in Atlanta, Georgia.



P. H. Farmer

Paul H. Farmer has been appointed sales manager for Foster Machine Co., succeeding Edward C. Connor who has been elected president of the company.

Deaths

James M. Scott, general plant manager and treasurer of Scott Testers, Inc., died suddenly of a heart attack on June 19. He was 50. A son of David, C. Scott, founder of the company, and a brother of David C. Scott, Jr., president, he had spent his entire business career with Scott Testers.



LUBRIPLATE Lubricants actually condition bearing surfaces and stop progressive wear. They prevent rust and corrosion and resist steam, hot water and many acids. They meet all conditions of the Textile Industry. Use LUBRIPLATE and make One Bearing Outlive Two.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose... LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.



For nearest Lubriplate distributor see Classified Telephone Directory. Send for free "Lubriplate Data Book" . . . a valuable treatise on lubrication. Write Lubriplate DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



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Your inquiry will be answered promptly and treated confidentially.

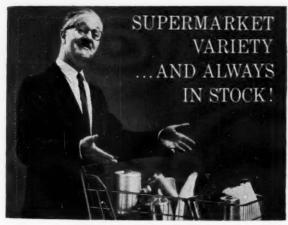
Write to:

AREA DEVELOPMENT DEPARTMENT

GULF STATES UTILITIES COMPANY

Offices in Baton Rouge and Lake Charles, La.; Navasota, Port Arthur and Beaumont, Tex.

E. I. du					France Sterength			
	Pont de Ner pers Dept. Curr				Extra Strength 1.0 Denier "Avisco XL"			.36
	Aay 29, 1960				1.0 Denier 1.5 & 3.0 Denier	3		.42
Den Fil	"Su	per Cordura	// *	il Packages	"Avisco Crimped"			.36
1100-720 1200-720		2 2		.57 .57	8.0 & 15.0 Denie	'S ITS		.34 .35
1530-960 1600-960		2 2		.57 .52		Deniers	, *************	.36
1650-1100 1800-1100		2 2		.50 .50		COLORSPUN STAPLE		
2200-1440 2400-1440		2 2		.49	Color	1.5 Denier 1 9/16" Code		Price
Terms: N Domestic	et 30 Days. Freight Terms	are F.O.B. ship continental lim	pping point, fr	reight pre-	Sea Foam Spun Gold	517 614 419		47¢ 47¢ 42¢
excluding A	laska.				Cascade Silver Gray Bridal Rose	208 710		42¢ 42¢
* "CORD!	URA" and "SUI s for its high te	PER CORDURA' enacity rayon ya	' are DuPont's	registered	Rosewood	835 803		47¢ 42¢
	Rayon Co				Bisque Champagne Sandalwood	833 802 3.0 Denier 2"		42¢ 42¢
Un	bleached Bi	right High T	enacity Yar	rns	Mint Green Pale Pink	505 708		47¢
	Beams and Cone	Turns		-	Bisque Sandalwood	803 802		42¢ 42¢
Denier 1100	Filament 480	per Inch 2.0 "Z" 2.0 "Z"	Beams .56	Cones	Gold Turquoise	603 408		47¢ 42¢
1150 1650	480 720	2.0 "Z"	.56	.56 .49 .49	Wine Gray	304 208		59¢ 42¢ 47¢
1725 2200	720 1000	2.0 "Z" 2.0 "Z" 2.0 "Z"	.49	.48	Spice Brown	Rayon Tow		476
3300 4400	1440 2000	2.0 "Z"	.48	.48	Grouped Continuous	Filaments (200,000 Total Denie enier Per Filament	er)	.35
	Turay Cart	Tyrex ified Viscose	Tire Varn		9.0 Denier Per I Terms: Net 30 day	Filament	****************	37
Denier	Filament	Twist	Beams	Cones	American Enka	_		
1100 1650	720 1100	Z	.57	.57	Current Prices Effe			
on delivery	of goods to ca	point of shipmerrier. Domestic t	ransportation o	charges al-		Rayon Staple		
States exce	pt Alaska.	rate to all point	its in continen	tal United		Regular Crimp	Brt.	Dull
		yon Corporat	-	h.	1.5 and 3 denier		\$.33	\$.33
Effective D	December 23, 1				4.5 denier	High Crimp	.34	****
Continuous	r High Strength Yarn Type 710		Cones	Beams	6.5 denier		.34	.34
1100/720 1650/720	1.6 2.0		.57	.57 .50	15 denier		.35	.35
Tire Cord F	abrics r High Strength	Туре 710		Rolls	Celanese Fibers			
1100/720 1650/720								
				.69 .59	Effective May 1, 1			Bright
Terms: N	e's nearest freig	shipping point.	the Mississipp	.59 ht allowed i River. To		Rayon Tow		Bright & Dull
Terms: N to consigned points West Tenn. allow	e's nearest freight of the Mississ wed. Goods after	ht station East of ippi River minin r shipment shall	the Mississippi num freight to be at buyer's	ht allowed i River. To Memphis, risk. Mer-	1.5, 3, 5.5 D.P.F. Total denier 200,000	Rayon Tow		& Dull35
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Delivered immediately!

RAYON • NYLON • ACETATE YARNS graded and inferiors—all put ups.

MALORA' METALLIC YARNS
supported and unsupported

THROWN YARNS
HELANCA® STRETCH YARNS
NYLON • DACRON



125 WEST 41st STREET, NEW YORK 36, LOngacre 3-4200

Fortrel Prices Announced

Fiber Industries, jointly owned by Celanese and Imperial Chemical Industries, is now producing Fortrel polyester staple fiber and tow at Shelby, N.C. Celanese Fibers Co., which is marketing the fiber in the United States, has announced the following prices:

For fiber: 1.5 denier. \$1.26 a pound; 3 denier, \$1.36, and 4.5 and 6 denier each \$1.31. Staple lengths of $1\frac{1}{2}$, 2 and 3 inches are available. Tow: 1.5 and 3 denier, \$1.36. 4.5 and 6 denier, \$1.31.

All staple and tow are in semi-dull luster. The staple is packed in 500-pound bales and tow is packed in cartons weighing from 300 to 400 pounds.

The first appearance on the retail market in early 1961. Plans are being formulated to license the Fortrel trademark for approved fabrics.

New Russian Fibers

Three new fibers have been produced in Russia which have no counterpart in the Western World, according to Roy C. Laible and Louis I. Weiner, of the Headquarters Research and Engineering Command, Natick, Mass. They list the fibers in the Textile Research Journal, as Enant, a nylon 7; Ftorlon, a fluorine-containing copolymer with good resistance to chemicals, and Vinitron, a superior product resulting from the combination of a cellulosic material with Khlorin (chlorinated polyvinyl chloride). Liable and Weiner said that a possible threat from Russian textile research lies not in the development of slightly improved counterparts of nylon, Orlon, etc., but in the possibility of a real breakthrough emanating from extensive work in this field of new and unusual polymers.

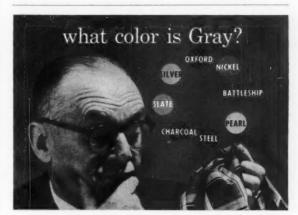
Avisco Reorganization

A realignment of organizational responsibilities in the Research and Development Division of American Viscose Corp. has been made. The changes stem from the election of Dr. Herschel H. Cudd, formerly vice president in charge of the Avisco division, as president of AviSun Corp., the jointly-owned affiliate of American Viscose and Sun Oil Co.

Henry H. Bitler, and George J. Alles, respective general managers of the Fibers and Film Divisions, now administer product improvement and development in their divisions, under the direct supervision of Dr. Charles J. Geyer and Dr. Henry H. Sineath, for fibers and film, respectively. Dr. Frank H. Reichel, Jr., is director of corporate research responsible for new product development. He is assisted by Dr. Wayne A. Sisson. Joseph E. Ross is manager of Research and Development Services. Polyolefin research and development continues under the direction of Dr. John A. Howsman, with its work devoted entirely to AviSun Corp.

TTMA Elects Officers

The following officers of the Tufted Textile Manufacturers Association were elected at the recent 15th national convention in Miami Beach, Fla: president, A. L. Zachry, Jr., G. H. Rauschenberg Co., and as vice presidents—I. V. Chandler, Patcraft Mills; Leonard Loberbaum, Latex Corp.; James T. Porter, Tifton Rug Mills, and Arthur N. Richman, Art-Rich Mfg. Co. The nominating committee recommended that M. E. Kellar, E. T. Barwick Mills, be elected treasurer by the TTMA board of directors.



At ATLANTIC color specified is color delivered . . . assured by superior techniques and facilities acknowledged in the industry.

VARN DYEING

Rayon • Nylon • Acetate • Stretch Yarns
Cakes • Packages • Skeins

Custom-matched colors. Large dye batches.

Any degree of color fastness. Packaged as desired.

PROMPT DELIVERY



125 WEST 41st ST., NEW YORK 36, LONGACRE 3-4200 PLANT: 86 CRARY ST., PROVIDENCE, R. I.

In addition to the above, Black is also available in: 1½ den. 1½"

3 den. 1½"

5½ den. 6"

3 den. 1-9/16"

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

Corval® Cross Linked Rayon Effective April 14, 1959

Man-made, cross-linked, cellulosic staple, Bright and Dull, 1½, 3 and 5½ denier..... \$.40 per lb.

Topel® Cross-Linked Rayon

The Hartford Fibres Co.

Div. Bigelow-Sanford Carpet Co., Inc.

Rayon Staple

Effective November 3, 1958

11200020	1.5 denier Bright	
VISCALON 66 (Crimped)	1 9/16", 2"	.33
VISCALON 00 (Crimped)	8 denier 3" Bright	25
	15 denier 3° Bright	
	15 denier 3° Dull	
"KOLORBON"-Solution	Dyed Rayon Staple—3' and 6'	.00

	8 Denier	15 Denier	15 Denie
	Bright	Dull	Bright
Cloud Grey	.46	.46	000
Sandalwood	.46	.46	****
Nutria	.46	46	****
Sea Green	AR	46	
Mint Green	.46	46	****
Champagne	.46	46	****
Midnight Black		.40	4.0
	.46	****	.46
Gold	.49	.49	freez.
Turquoise	.46	.46	****
Melon	.49	.49	****
Capri Blue	.46	.46	
Charcoal Grey	.46	.46	****
Coce	.47	.47	
Sable	.48	****	.48
Tangerine	.66		.66
Chinese Red	.66		.66
Larkspur Blue	.46	.46	.00
Royal Blue	.66		
Lemon Peel			.66
Lemon Feel	.55	.55	
Kelly Green	.52	.52	****

"Zantrel" Polynosic Rayon

Effective August 14, 1959

Man-made, polynosic, cellulosic staple.

Semi-Bright, 1 denier, 1 9/16"

1½ denier, 1 1/4" and 1 9/16"

3 denier, 1 1/4" and 2"

Terms: Net 30 days. Prices are quoted 1.0.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

North American Rayon Corporation

Current Prices Effective Dec. 23, 1959

Rayon Staple Super High Tenacity No. 1 (Unshrunk) 1, 1.5 & 3 deniers Bright .40 No. 2 (Preshrunk) 1, 1.5 & 3 deniers .40 Rayon Tow

High Tenacity
2200 denier, 1.0 and 1.5 D/F
4400 denier, 1.0 and 1.5 D/F
Prices are subject to change without notice.

TRIACETATE

Celanese Fibers Company

Current Prices Effective June 7, 1957

(Most Deniers Available in Bright or Dull Luster)

Arnel Staple and Tow	
Arnel Triacetate Staple 2.5 Individual Denier 5.0 Individual Denier	Bright & Dull \$.55 .55
Arnel Triacetate Tow	100
2.5 Individual Denier 114,000 Total Denier	\$.60
5.0 Individual Denier 90,000 Total Denier or	.60
180 000 Total Denice	

180,000 Total Denier
Packaged on Ball Warps
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

mer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

NON CELLULOSIC YARN NYLON

Allied Chemical Corporation

Caprolan®

Effective May 1, 1960 Current Yarn Prices: Ist Grade Price/Lb. \$1.60 Fila-Turn/ Package Denter ment In. 140 Cones 16 16 16 ZZZZZZZZZZZZZZZZZZZZOOOOOOOO Reams 1.65 Cones .49 1.54 1.49 1.54 1.49 1.49 200 32 32 32 16 64 64 32 32 200 B HB Beams 210 Bobbins Bobbins Bobbins Beams Bobbins 1/2 1/2 1.39 1.44 1.39 1.44 .97 .94 .94 1.15 1.11 HBT 420 520 520 136 136 272 840 840 1680 Al. Tubes
Beams
Al. Tubes
Beams
Al. Tubes
Al. Tubes
Paper Tubes Al Tubes HBT 1680 272 1050 56 112 HB 2100 HB HB .99 .98 .98 .98 .97 .97 2500 544 3360 4200 HB 5000 5800 7500 816 HB HB

15000 2448 0 O HB Paper Tubes* .97

Terms—Net 30 days.

Price subject to change without notice.
Bobbins are invoiced at 45¢ ea.
Aluminum Tubes are invoiced at 40¢ ea.
Beams are invoiced at \$220.00.
Cradles for beams are invoiced at \$53.00.
Paper Tubes and Cones non-returnable, no charge.
Type is used to describe luster and tenacity.
All prices quoted F.O.B. Shipping Point.
Minimum transportation charges allowed and prepaid in Continental United States, excluding Alaska.

American Enka Corporation

Enka Nylon Yarn Prices

2448

10000

15000

Effective July 1, 1960				Price Pe	Sub-	
Den./Fil.	Luster*	Twist	Package	Standard		
15/1	SD or D	0.5 Z	Tricot Spools	4.00		
15/1	SD or D	0.5 Z	Pirns-2 lb.	3.89	3.69	
20/1	SD	0.5 Z	Pirns-1 lb.	4.03	3.68	
20/6	D	0.5 Z	Pirns-2 lb.	2.96	2.61	
20/6	D	0.5 Z	Tricot Spools	3.07		
30/6	SD	0.5 Z	Pirns-2 lb.	2.36	2.21	
40/8	SD	0.5 Z	Pirns-2 lb.	2.01	1.91	
40/8	SD-IC	0.5 Z	Tricot Spools	2.11		
40/8	SD-B de B		Pirns-2 lb.	2.10	2.00	
40/13	D	0.5 Z	Pirns-2 lb.	2.06	1.96	
40/13	D	0.5 Z	Tricot Spools	2.16		
50/13	SD	0.5 Z	Pirns-2 lb.	1.91	1.76	
50/13	SD-B de B		Pirns-2 lb.	2.00	1.85	
70/32	B-SD	0.5 Z	Pirns-2 lb.	1.71	1.66	
70/32	SD-B de B	0.5 Z	Pirns-2 lb.	1.80	1.75	
100/32	SD-B de B		Pirns-2 lb.	1.74	1.69	
100/32	SD	0.5 Z	Pirns-2 lb.	1.65	1.60	
140/64-32	B-SD	0.5 Z	Pirns-2 lb.	1.60	1.55	
140/64-32	B-SD	0.5 Z	Tricot Spools	1.70		
140/32-64	SD-B de B		Pirns-2 lb.	1.69	1.64	
200/16-34	В	0.6 Z	Cones-4 lb.	1.49	1.44	
200/16-34	В	0.6 Z	Beams	1.54		
200/32	SD-B de B		Cones-4 lb.	1.58	1.53	
260/16-34	В	0.6 Z	Cones-4 lb.	1.49	1.39	
400/68	В	0.6 Z	Cones-4 lb.	1.39	1.29	
520/32	B	0.6 Z	Cones-4 lb.	1.39	1.29	
6 V	D Dille C	Th	1 75 11 - The The II.	sen n do	D	

*Luster: B—Bright; SD—Semi-Dull; D—Dull; *SD-B de B.
Pirns invoiced at 25¢ or 45¢ each, depending on type. Deposits refunded upon return of pirns in good condition. Cones are not returnable. Spools, Beams and Racks are deposit carriers and remain the property of American Enka Corporation.
Terms: Net 30 days from date of invoice. Minimum common carrier transportation charges will be prepaid and absorbed to first destination in the continental limits of the United States excluding Alaska and Hawaii. In prepaying transportation charges, seller reserves the right to select carrier used.
All prices subject to change without notice.
*B de B—Blanc de Blancs®—White of Whites Color.

Dull

The Chemstrand Corp.

Current Prices Effective January 15, 1960 Standard Second Price/Lb. Price/Lb. \$7.16 \$6.56 3.89 3.69 4.00 Fila-Package Bobbins Bobbins SD SD Spools Bobbins 15 15 15 20 20 3.69 Dull Dull 3.89 Spools Bobbins 4.00 2.91 2.61 30 **Bobbins** 26 10 13 13 40 **Bobbins** 2.01 1.91 40 Bobbins 2.01 SD SD SD Dull Spools Warp Wind Draw Wind Bobbins 40 2.06 2.16 40 Dull Spools Draw Wind

Bobbins

Draw Wind

2.06

1.96

- Supervision
- Control
- Management



SOMETHING

FOR THE WHOLE TEAM at the 21 st

BIENNIAL

Southern Textile Exposition

OCTOBER 3-7

350 EXHIBITORS

TEXTILE HALL
GREENVILLE, S. C.

Nothing is impossible unless you have to do it yourself.



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LAMBERTVILLE THREAD GUIDES

can't make a guide that lasts forever. We can and do produce long wearing dimensionally accurate guides that give the most economical and satisfactory service. Available in white or 'Durablu' finish. Write for catalog and samples.



LAMBERTVILLE, NEW JERSEY

LAMBERTVILLE: YOUR GUIDE TO BETTER OPERATIONS!

NO YARN TRAPPING WITH BRAZED ALUMINUM TWO POUND TAKE-UP BOBBIN



New aluminum take-up bobbin with barrel and heads brazed together into a single unit prevents yarn trapping. Exceptional strength at price no higher than ordinary bobbins.

Write us today for full details.



ALLENTOWN BOBBIN WORKS, INC.

ALLENTOWN

PENNSYLVANIA

50	17	Z	Brt.	Warp Wind	1.91	1.76
70	20	Z	SD	Bobbins	1.71	1.66
70	34	Z	SD	Bobbins	1.71	1.66
70	34	ő	SD	Draw Wind	1.71	1.66
70						
	34	Z	SD	Warp Wind	1.71	1.66
70	34	Z	Brt.	Bobbins	1.71	1.66
70	34	0	Brt.	Draw Wind	1.71	1.66
70	34	Z	Brt.	Warp Wind	1.71	1.66
70	34	Z	HB	Bobbins	1.76	1.66
70	34	0	HB	Draw Wind	1.76	1.66
90	26	Z	SD	Bobbins	1.76	1.66
100	26	7.	SD	Bobbins	1.65	1.60
100	34	Z	SD	Bobbins	1.65	1.60
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140		2	Brt.	Bobbins		1.55
200	68	Z	Brt.		1.60	
	34	Z		Bobbins	1.49	1.44
200	34	0	Brt.	Draw Wind	1.49	1.44
200	34	Z	Brt.	Spools	1.54	
200	68	Z	SD	Bobbins	1.56	1.46
210	34	Z	HB	Bobbins	1.49	1.44
210	34	0	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Warp Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	****
210	34	Z	HB	Beams	1.54	****
210	34	ž	RHB	Bobbins	1.59	1.44
260	17	7	HB	Bobbins	1.49	1.39
260	17	Z Z Z Z Z Z	HB	Beams	1.54	
420	68	2	HB	Bobbins		1.00
520	34	2	HB		1.39	1.29
720		2		Bobbins	1.39	1.29
720	140	Z	RHB	Tubes	1.04	1.01
720	140	Z	RHB	Beams	1.04	1.01
780	51	Z	HB	Tubes	1.39	1.29
840	140	Z	HB	Tubes	.97	.94
840	140	Z	HB	Beams	.97	.94
840	140	Z	HB	Cones	1.01	.94
840	140	Z	RHB	Tubes	.97	.94
840	140	Z	RHB	Beams	.97	.94
840	140	Z	RHB	Cones	1.01	.94
840	140	Z	HB	Paper Tubes	1.01	.94
840	140	Z	RHB	Paper Tubes	1.01	.94
840	140	Z	RHB	Textile Grade	1.01	.39
040	140	do	RHB			
1040	00	-	-	_W. W.	1.12	1.01
	68	Z	SD	Tubes	1.15	1.05
1680	280	Z	HB	Beams	.94	.91
1680	280	Z	RHB	Tubes	.94	.91
1680	280	Z	RHB	Beams	.94	.91
1680	280	Z	RHB	Cones	.97	.94
						10.4

• Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenactly. Bobbins are invoiced at 25¢ or 45¢, depending on type; tubes are invoiced at 40¢ each; spools invoiced at \$95.00, \$110.00, and \$115.00, depending on type; and beams and crates for beams are invoiced at \$220.00 and \$25.00 respectively. Prices subject to changes without notice. Freight prepaid within Continental United States and Puerto Rico.

E. I. du Pont de Nemours & Co.

Current	Fibers Dep		V		
		Nylon	Tarn		
Denier & Fil-	Turns/				
ament	& Twist	Type	Package	1st	2nd
7-1	0	200	Bobbin	Grade	Grade
10-1	0	200	Bobbin	\$8.05	\$7.40
12-1	0	200	Bobbin	7.16 6.35	6.56 5.85
15-1	0	200	Beam	4.00	0.00
15-1	0	200	Bobbin	3.89	3.69
15-1	0	680	Beam	4.00	0.00
15-1	0	680	Bobbin	3.89	3.69
20-1	0	200	Bobbin	4.03	3.68
14-2	0.2Z	200	Bobbin	6.72	6.12
17-2	0.2Z	200	Bobbin	5.96	5.41
20-2	0.2Z	200	Bobbin	4.71	4.27
15-3	0.22	200	Bobbin	5.19	4.69
21-3 20-7	0.2Z	200	Bobbin	4.70	4.27
20-7	0.5Z 0.5Z	200	Bobbin	2.91	2.61
20-7	0.5Z	200	Beam	3.02	. 20
20-7	0.5Z	680	Bobbin	2.96	2.61
20-20	0.72	680	Beam	3.07	43.00
28-4	0.22	209 200	Bobbin	6.00	****
30-10	0.5Z	200	Bobbin	2.81	2.61
30-10	0.5Z	200	Bobbin Tricot Bms.	2.36 2.46	2.21
30-10	0.5Z	300	Bobbin	2.51	2.36
30-10	0.52	680	Bobbin	2.41	
30-10	0.5Z	680	Tricot Bms.	2.51	2.21
30-26	0.5Z	200/280	Bobbin	2.49	2.21
30-26	0.52	200/280	Tricot Beams	2.59	
40-1	0	100	Bobbin	4.03	3.75
40-7	0.5Z	200	Bobbin	2.11	1.91
40-10	0.5Z	200	Bobbin	2.01	1.91
40-10	0.5Z	200	Tricot Beams	2.11	2.02
40-10	0.52	280	Bobbin	2.01	1.91
40-13	0.5Z	200	Bobbin	2.01	1.91
40-13	0.5Z	200	Tricot Bms.	2.11	
40-13	0.5Z	400	Bobbin	2.13	1.90
40-13	0.5Z	680	Bobbin	2.06	1.96
40-13	0.5Z	680	Tricot Bms.	2.16	****
40-34	0.5Z	200	Bobbin	2.21	1.81
50-10 50-17	0.5Z	200	Bobbins	2.11	1.76
50-17	0.5Z	100/200	Bobbin	1.91	1.76
50-17	0 0.5Z	200 680	Tubes	1.91	1.76
60-20	0.5Z	200	Bobbin	2.01	1.76
60-34	0.5Z	300	Bobbin Bobbin	1.82	1.65
70-17	0.5Z	200	Bobbin	1.86	1.76
70-34	0	100	Tubes	1.71	1.66
70-34	0.5Z	100/200	Bobbin	1.71	1.66 1.66
70-34	0	105/205	Paper Tube	1.71	1.66
70-34	0	200	Tubes	1.71	1.66
70-34	0.52	280	Bobbin	1.71	1.66
70-34	0.5Z	288	Bobbin	1.71	1.66
70-34	0.5Z	300	Bobbin	1.71 1.76	1.66
70-34	0.5Z	680	Bobbin	1.76	1.66
70-34	0	680	Tubes	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.60
90-26	0.5Z	200	Bobbin	1.76	1.66
90-26	0.5Z	288	Bobbin	1.76	1.66
100-34	0.5Z	200/288	Bobbin	1.65	1.60

100-34	0.52	300	Bobbin	1.70	1.60
100-34	0	300	Tubes	1.70	1.60
100-34	0.5Z	680	Bobbin	1.70	1.60
100-50	0.52	200	Bobbin	1.71	1.60
110-50	0.5Z	200	Bobbin	1.71	1.60
140-68	0.5Z	100	Bobbins	1.60	1.55
140-68	0	200	Tubes	1.60	1.55
140-68	0.52	200	Bobbin	1.60	1.55
140-68	0	205	Tube	1.60	1.55
140-68	0.5Z	288	Bobbin	1.60	1.55
140-68	0.5%	300	Bobbin	1.65	1.55
200-20	1Z	100	Bobbin	1.49	1.44
200-34	0	100	Tubes	1.49	1.44
200-34	0.72	100	Bobbin	1.49	1.44
200-34	0	105	Tube	1.49	1.44
200-34	0.72	680	Bobbin	1.54	1.44
200-68	0.7Z	100/200	Bobbin	1.56	1.46
210-34	0	300	Tubes	1.49	1.44
210-34	0.7Z	300	Bobbin	1.49	1.44
210-34	0.7Z	300	Beam	1.54	
210-34	0	305	Tube	1.49	1.44
210-34	0.7Z	330	Bobbin	1.59	1.44
260-17	1Z	300	Bobbin	1.49	1.39
400-68	0.7Z	100	Bobbin	1.39	1.29
420-68	1Z	300	Bobbin	1.39	1.29
420-68	1Z	300	Beams	1.44	
520-34	1Z	300	Bobbin	1.39	1.29
630-102	0.72	300	Bobbin	1.39	1.29
780-51	1Z	300	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	1.39	1.29
840-140	0.5Z	300/700	Al. Ths. & Beams	.97	.94
1680-280	0.5Z	300/700	Al. Tbs. & Beams	.94	.91
Color-Scale					
Denier &	Turns/In		-	1st	and
Filament	& Twist	Type	Package	Grade	Grade
30-10	0.5Z	140	Bobbin	\$2.71	\$2.56
40-13	0.5Z	140	Bobbin	2.36	2.16
70-34	0.5Z	140	Bobbin	2.06	2.01
100-34	0.52	140	Bobbin	2.00	1.95
100-34	0	140	Tubes	2.00	1.95
200-20	0.7Z	140	Bobbin	1.84	1.79
200-34	0.72	140	Bobbin	1.84	1.79
260-17	17.	140	Bobbin	1.84	1.79
260-20	1Z	140	Bobbin	1.84	1.79
Industrial 3	Yarn			Pric	e/Lb.
840-140	0.5Z	*707	Cone		.97
5040-840	0	*707	Paper Tube		.01
7560-1260	0	*707	Paper Tube	1	.00
10080-1680	0	*707	Paper Tube		.00
15120-2520	0	*707	Paper Tube	1	.00
	pecifically	for cordage	use.		
2520-420	0	700	Paper Tube		.99
4200-700	0	700	Paper Tube		.98
5040-840	0	700	Paper Tube		.98
7560-1260	0	700	Paper Tube		.97
10080-1680	0	700	Paper Tube		.97
15120-2520	0	700	Paper Tube		.97
These price	s are subje	ect to change	without notice. Ter	ms: Net	30 Days.

Types

Type 100—Bright, normal tenacity.
Type 105—Bright, normal tenacity, low shrinkage (5-7%)
Type 140—Bright, color-sealed, black, normal tenacity.
Type 200—Semidull, normal tenacity.
Type 205—Semidull, normal tenacity, low shrinkage (5-7%)
Type 209—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 280—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 288—Semidull, normal tenacity, for Texturing.
Type 300—Bright, high tenacity.
Type 305—Bright, high tenacity, low shrinkage (5-7%)
Type 330-Bright, high tenacity, more heat & light resistant.
Type 400—Semidull, high tenacity.

Type 330—Bright, high tenacity, more at & light resistant.

Type 400—Semidull, high tenacity.

Type 680—Dull, normal tenacity.

Type 700—Bright, high tenacity.

Type 707—Bright, high tenacity ordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Following are invoiced as a separate item.

Bobbins—25 cents or 45 cents depending on type Aluminum Tube—40¢ each

Draw Winder Tubes—8.70 or \$1.00 depending on type

Tire Cord Beams—\$220.00 each

Cradles for Tire Cord Beams—\$115.00 each

Tricot Beams—\$95.00 each

Cradles for Tricot Beams—\$130.00 each

(Beams and Cradles are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. **Current Prices** "Dacron"* Denier & Tubes 1st Gr. \$2.71 2.71 2.31 2.31 1.91 1.91 1.96 1.84 1.79 1.76 1.50 1.50 Luster Type*
55
56
56 Filament
30-14
30-20
40-27
40-27
40-27
70-34
70-14
70-34
100-34
140-28
150-34
220-50
250-50
1100-250 Turns/Inch Luster
Bright
Semidull
Semidull
Bright
Dull
Semidull
Bright
Bright
Dull
Semidull
Bright
Bright
Bright
Bright
Bright
Bright
Bright
Bright
Bright
Bright 55 57 56 55 57 56 55 56 51 55 51 52

1100-250 0 Bright 52 1.50
Terms: Net 30 days.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the Continental limits of the U. S., excluding Alaska.

Yarn Types

* Type:

Type 51—Bright, high tenacity.
Type 52—Bright, high tenacity.
Type 55—Bright, normal tenacity.
Type 56—Semidull, normal tenacity.
Type 56—Semidull, normal tenacity.
Type 57—Dull, normal tenacity.
Tubes are invoiced as a separate item at \$.70 each.

"DACRON" is DuPont's registered trade-mark for its polyester

fiber.

SARAN

n

The National Plastics Products Company— **Fibers Division** Odenton, Maryland

Current Prices: CONTINUOUS FILAMENT Natural \$1.32 1.75 S1.37 1.80 Type 1240/10 Twist p. i. 246/10
750/20°
For filter fabrics and other industrial purposes only.
F.O.B. Odenton, Maryland.
Terms: Net 30 days.

NON CELLULOSIC STAPLE & TOW ACRYLIC

American Cyanamid Co. **Fibers Division**

Effective Date: November 24, 1959

Cyanamid Acrylic Staple	1st Grade Price (per pound)
2.0 Denier Bright and Semi-Dull	\$1.28
3.0 Denier Bright and Semi-Dull	1.18
5.0 Denier Bright and Semi-Dull	1.18
15.0 Denier Bright, Semi-Dull and Dull	.93
Staple Lengths: 11/4", 2" 21/4", 3", 31/4", 4", 41/4".	
Information provided on request for Deniers, Lengths	and Lusters
not listed above.	
Prices are subject to change without notice.	
Terms: Net 30 Days.	
FOR Chinning Daint Minimum Annumentation allow	olenii-lenie

rerms: Net 30 Days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's route and method) within the continental limits of the United States excluding Alaska. If Buyer requests and Seller agrees to a route or method involving higher than minimum rate, Buyer shall pay the excess transportation cost.

Note: CRESILAND is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.

The Chemstrand Corp.

Current Prices "Acrilan"* Effective January 1 1050

1.0 denier Semi-Dull and Bright staple	Acrilan	Acrilan 16 \$1.28
2.0 denier Semi-Dull and Bright staple & tow	\$1.18	1.18
2.5 denier Hi-Bulk Bright and Semi- dull staple and tow	1.18	1.18
3.0 denier Bright & Semi-dull staple & tow	1.18	1.18
5.0 denier Bright & Semi-dull staple & tow	1.18	1.18
8.0 denier Bright & Semi-dull staple & tow	1.18	1.18
15.0 denier Bright & Semi-dull staple & tow	.93	.97

actions: Net 30 days. Freight prepaid within Continental U. S. & Puerto Rico. * "Acrilan" is Chemstrand's registered trademark for its acrylic fiber

The Dow Chemical Company

Textile Fibers Department Current Prices	
"Zefran"* Acrylic Staple	
2.0 denier Semidull & Bright-Staple only	
3.0 denier Semidull & Bright—Staple only	1.28
6.0 denier Semidull & Bright—Staple only	1.18
100% Blends of ZEFRAN acrylic fiber (For the Woolen System)	
Type W-2 (average denier of about 2.5)	\$.99
Type W-4 (average denier of about 4.5)	.94
Terms: Net 30 days.	
Transportation Terms: F.O.B. shipping point-Freight prepaid	our
route within the continental limits of the U.S., excluding Alask	a.
& Designationed transferration of The Designation Co.	

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Orlon"*	Acryl	ic Stan	10 8.	TOW
Orion	ACTVI	ic Stab	le ox	LOW

0.1011 1.10	, , o. ab. a		
		Tow	1st
Type 42	Staple Length	Blds.	Grade
1.0 Denier Semidull	14, 14, 2, 24, 3	420M	\$1.28
2.0 Denier Semidull & Bright	14, 14, 2, 24, 3, 44	470M	1.28
3.0 Denier Semidull & Bright	14, 14, 2, 24, 3, 44	470M	1.28
3.0 Denier Color-sealed Black	114.114.2.214.3.414	470M	1.63
6.0 Denier Semidull & Bright	14, 2, 24, 3, 44	470M	1.18
6.0 Denier Color-sealed Black	1%, 2, 2%, 3, 4%	470M	1.55
4.5 Denier Semidull	1%, 2, 2%, 3, 4%	470M	1.18
10.0 Denier Semidull & Bright	11/2, 2, 21/2, 3, 41/2	470M	1.18
10.0 Denier Color-sealed Black	11/2, 2, 21/2, 3, 41/2	470M	1.55
High Shrinkage Staple price	as Regular Staple		
Type 25			\$1.08
This product is designed for	Cotton/Rayon System Sp	inning	and is

2.5 denier, 1½" semidull regular shrinkage staple.

Type 38—4.1 Denier—Semidull—592M Tow

This product can be dyed, stretched and cut to produce staple which will shrink as much as 38% when subjected to heat.

Type 39 This product is designed for woolen system spinning	and is	\$.94 a blend
of deniers (average 4.2) with a variable cut length.		\$.99

This product is designed for woolen system spinning and is a blend of predominately fine deniers (average 2.4) with a variable cut length.

Type 39B

This product is designed for woolen system spinning and is a blend of predominately heavy deniers (average 6.5) with a variable cut

length.
"ORLON SAYELLE"**

Acrylic fiber

MODACRYLIC

Eastman Chemical Products, Inc. Tennessee Eastman Co.

Current

	"Verel"*	Staple	and	Tow	
Deniers				Dull and	
2 and 3				\$1.02 per	pound
5, 8, and	12	***************	******	.92	
16 and 2	0 0			.88	
04 3				00	

Union Carbide Chemicals Co.

Div. Union Carbide Corp.

Textile Fibers Dept. Effective May 1, 1959

Dynel Staple & Tow

Dyffer Staple or 1011	
Natural Dynel	
3, 6, and 12 Denier, Staple and Tow	1.10 per lb.
24 Denier, Staple and Tow	1.05 per lb.
Dynel Spun with Light Colors:	
Blond, Pewter, and Gray	
3 and 6 Denier, Staple and Tow	1.30 per lb.
Dynel Spun with Dark Colors:	
Black, Charcoal, Brown, Caramel, Green, and Blue	
3 and 6 Denier, Staple and Tow	1.40 per lb.
Dynel Type 63 High Shrinkage (3 Denier only)Add	1 \$.05 per lb.
	above prices
Prices are quoted F.O.B. shipping point, freight prepaid	our route,
within continental limits United States, excluding Alaska	and Hawaii.

NYLON

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

6.0		m.	2		- Company
NV	lon	Ston	0	and	Tow

				A	nd Grade
Denier	Type	Staple Lengths	Tow Bundle	1st. Grade Price/Lb.	Staple
1.5	200	11/4"-41/4"	None made	\$1.33	\$1.18
1.5	201	1%"-4%"	None made	1.35	1.20
2.3	420	1%" only	None made	1.28	1.13
3.0	100/200	11/4"-41/4"	430M	1.28	1.13
3.0	101/201	1%"4%"	455M	1.30	1.15
6.0	100	11/2"-61/2"	330M	1.28	1.13
6.0	101	11/2"61/2"	345M	1.30	1.15
15.0	100	11/4"-61/4"	425M	1.08	****
15.0	101	1%"-6%"	None made	1.10	****
15.0	600	114"-614"	425M	1.10	****
15.0	601	114"-614"	None made	1.12	****
Staple	lengths	are restricted	to the range	shown oppo	site each

denier above. The actual cut lengths within these ranges are as

1%, 1%, 2, 2%, 3, 4% and 6%

Type 100 Bright, normal tenacity, not heatset.
Type 101 Bright, normal tenacity, heatset.
Type 200 Semidull, normal tenacity, heatset.
Type 201 Semidull, normal tenacity, heatset.
Type 202 Semidull, high tenacity, high modulus, no crimp.
Type 600 Dull normal tenacity, not heatset.
Type 601 Dull normal tenacity, not heatset.
Type 601 Dull normal tenacity, heatset.
These prices are subject to changes without notice.
Terms—Net 30 Days.
Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Industrial Rayon Corp.

Effective August 18, 1958

Nylon Staple	
1.5 denier 2, 3 and 6 denier 8 denier	\$1.33 per lb 1.28 per lb 1.15 per lb
15 and 22 denier Bright, semi-dull, and full-dull. Required lengths.	1.08 per lb

NYTRIL

Celanese Fibers Company

DARVAN

Effective Nov. 21, 1958		
	Price Pe	
Type	Not Crimp Set	Crimp Set
3, 41/4 and 6 Denier	\$1.45	\$1.50
1%, 2 Denier	\$1.50	\$1.55

Pack in 100 Lb. Bales, Net
Staple lengths 1½, 2, 3, 4½
Tow-90,000 Total Denier
Bright, Semi-dull, Dull
(Deniers and lengths of staple not listed above are available upon
special request.)
Terms: Net 30 Days.
F.O.B. Shipping Point (Avon Lake, Ohio) Minimum freight prepaid
our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi
River freight allowed to the Mississippi River crossing nearest purchaser's mill if overland, or port of exit of purchaser's choice east of
the Mississippi River.

POLYESTER

Beaunit Mills Inc.

Vycron Polyester

Current Prices

	Denier	Price Per Lb. \$1.26
	3.0	1.36
Staple Cuts are 1%",	11/2", 2", 3" and 4"	
Tow for Converters	1.5	1.26
(Tow Bundle 200,000 Denier)	3.0	1.36

Spun Dyed Black 10¢ per lb. extra.

Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices subject to change without further notice.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

	"Dacron"**		Staple and	Tow	
Denier	Luster	Type*	Length	Tow Bundle	1st Gr.
1.5	Semidull	54	1 1/4"-11/2"	None made	1.26
1.5	Semidull	64	Tow only	550M	1.41
2.25	Semidull	64	11/4"-41/2"	450M	1.41
3.0	Semidull	54	1 1/4"-41/2"	450M	1.36
3.0	Semidull	61	11/4"-41/4"	None made	1.36
3.0	Semidull	64	11/4"-41/2"	450M	1.41
4.5	Semidull	54	114"-416"	450M	1.31
4.5	Semiduli	64	11/4"-41/6"	450M	1.36
6.0	Semidull	54	11/4"-41/4"	450M	1.31
6.0	Semidull	61	114"-414"	None made	1.31
6.0	Semidull	64	11/4"-41/4"	450M	1.36

rpe: Type 54—Semidull, Normal Tenacity.
Type 61—Industrial Staple having 45% Shrinkage. Not intended for Dyeable Uses.
Type 64—More Pill Resistant Staple, with Greater Dyeing Ver-

"Dacron" Polyester Color-Sealed Black

	Stup	ie una	IOW		
2.25	Color Sealed Black	64	11/4"-41/2"	450M	1.76
3.0	Color Sealed Black	64	11/4"-41/2"	450M	1.76
F. O.	. B. Shipping Point-Fre	ight pre	paid our route	within the	con-
tinenta	I limits of the United S	tates, ex	cluding Alask	a.	
** D	upont's Registered Trade	-mark	for its Polyeste	r Fiber.	

Eastman Chemical Products, Inc.

Tennessee Eastman Co. Current "Kodel"* Semi-Dull Black Deniers

Deniers Semi-Duil Blace 11/2 \$1.33 \$1.68 \$2.25, 3 and 4 \(\frac{1}{2} \) 1.44 \$1.79

VINYON

American Viscose Corp. Effective October 1, 1956

Avisco Vinvon Staple

3.0	denie	r ½" unopened	\$.80 per 1b.
3.0	70	1¼" unopened	.80 per lb.
3.0	99	11/4" opened	.90 per lb.
3.0	99	2" opened	.90 per 1b.
3.0	20	2" unopened	.80 per lb.
5.5	77	1" opened	.90 per lb.
5.5	99	31/2" opened	.90 per lb.
5.5	9-9	31/2" unopened	.80 per lb.
rms:	Net 3	0 days	too per sut

SARAN

The National Plastics Products Company— **Fibers Division** Odenton, Maryland

Current Prices:	Saran Staple	9	
Type	Denier	Natural	Colors
2Y—Upholstery	22	\$0.70	\$0.75
2Y—Upholstery	16	.74	.79
3Q—Industrial Fabrics	22	.68	.72
1C—Carpets	22	.68	.72
1M—Mops	22	.68	.72
In any staple length 1	1/4 to 6". Also 45 de	nier. 7" cut.	
F.O.B. Odenton, Mary	land.		
Terms: net 30 days.			

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Owens Corning Fiberglas Corp.

A Decorative Continuous Yarn

DE 150 1/0 1.0 TPL F.O.B. Freight Allowed. 53¢ per lb.

Du Pont Upholstery Nylon

A new textured continuous filament nylon yarn has been introduced by Du Pont to meet demands of furniture manufacturers and weavers for more versatility in styling of frieze fabrics. Called Antron 24 nylon, the upholstery yarn is a distinctive type of the new Antron multifilament tri-lobal nylon introduced several months ago. Antron 24 nylon is said to contribute greater covering power and dye depths plus attractive texture and rich hand to fabrics.

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This "F" Type Cleaner has recently proved to be the most versatile of the eight different models of D.F.D. Cleaners, owing to its adaptability to the latest models of textile machines. For further information, ask for our brochure on Type "F", The Versatile Cleaner.
The unique D.F.D. system of reversible blades pro-

vides four sizes of openings with two blades, ten sizes with three blades and eighteen sizes with four blades. Cleaner designed to create oscillating motion of threads; prevents early cutting of hardened tool steel blades.

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A division of Celanese Corporation of America

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Name

Address

Calendar of Coming Events

Sept.	6-16-Production Engineering Show, Navy Pier, Chicago, III.
Sept.	14—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Sept.	7-8-Canadian Textile Seminar. Queen's University, Kingston, Ont.
Sept.	7-8—Combed Yarn Spinners Association annual meeting. Greenbrier, White Sulphur Springs, W. Va.
Sept.	8—Textile Quality Control Association meeting. Clemson House, Clemson, S. C.
Sept.	8-9-Combed Yarn Spinners Association. The Cloister, Sea Island, Ga.
	9—AATCC Northern New England Section. Wachusett Country Club, West Boylston, Mass.
Sept.	10-AATCC South Central Section. Hotel Patten, Chattanooga, Tenn.
Sept.	14-17—Southeastern Maintenance & Engineering Show. State Fair Arena, Raleigh, N. C.
Sept.	15—Chattanooga Yarn Association annual outing. Read House, Chatta- nooga, Tenn.
Sept.	22-23—First International Textile Dyestuffs, Finishes and Auxiliaries Exhibition. Free Trade Hall, Manchester, England.
Sept.	28-29—Chemical Finishing Conference, sponsored by National Cotton Council. Statler Hotel, Washington, D. C.
Sept.	28-30—N. C. Textile Manufacturers Association meeting. The Carolina, Pinehurst, N. C.
Oct.	3-7-Southern Textile Exposition. Textile Hall, Greenville, S. C.
Oct.	5—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

om	ing Events
Oct.	6-8-AATCC national convention. Sheraton Hotel, Philadelphia, Pa.
	18-19—Institute of Textile Technology Technical Advisory Committee and Board of Trustees meeting. Charlottesville, Va.
Oct.	21-AATCC Northern New England Section meeting. Dedham, Mass.
Oct.	22—Textile Operating Executives of Georgia slashing and weaving dis-
	27-28—The Fiber Society fall meeting. Washington Hotel, Washington, D. C.
	2—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Nov.	10-Thread Institute annual meeting. Hotel Commodore, New York, N.Y.
Nov.	12—Textile Education Foundation, Inc. Georgia Tech, Atlanta, Ga. 12—Alabama Textile Operating Executives carding and spinning dis-

Nov.	28-Dec. 2	-Power	& Mecha	nical	3a. Engineer	ing Ex	hibition	. Coliseum,	New
Dec.	York, N. 7—AATT York, N.	monthly	meeting.	Della	Robbia	Room,	Hotel	Vanderbilt,	New

	of Canada and	Primary T	extiles	red by Institute.	Textile Queen	Elizal	ical
Mar. 23-25—ACA Apr. 24-28—Knit	ntreal, Que. Al annual meet ting Arts Exhib	ing. Fontain	nebleau torium,	Hotel, M Atlantic	iami I	Beach, N. J.	Fla.

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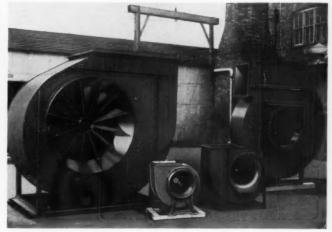
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